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MADRAS JOURNAL

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No. 26—*January* 1840.

I.—*Catalogue of the Birds of the Peninsula of India, arranged according to the modern system of Classification; with brief Notes on their Habits and Geographical distribution, and description of new, doubtful and imperfectly described Species.—By* T. C. Jerdon, *Assistant Surgeon, 2d Madras Light Cavalry.*

(*Continued from No. 25 page* 269.)

Sub Family SYLVIANÆ.—*Small Warblers.*

Genus ORTHOTOMUS, Horsf.—*Tailor Bird.*

114.—*O. Bennettii*, Sykes.—*O. Sphenurus*, Swains. ?—*S. ruficapilla*, Hutton, J. A. S. of Bengal, No. 22.—*S. longicauda*, Vieill. Encycl. Method. p. 456.—*S. Guzuratta*, Lath. Young bird ?—*Phootkee*, H.—*True Tailor bird.*

The long celebrated, and notorious *Tailor Bird*, about which so much was said, and, till lately, so little known, appears to have been first described accurately as such by Lieut. Hutton, in the work referred to, and his specific name should, strictly speaking, be affixed to it, but as his description has probably not been so numerously circulated as that given by Colonel Sykes, with the correct modern generic name also, it would perhaps, be more injurious than otherwise to attempt to restore its legal name, and, moreover, if priority alone was to be consulted, the name applied by Vieillot has the preference. The *S. Sutoria* of

Latham is most probably a fictitious species, and the *Tailor Bird* described and figured by Forbes in his Oriental Memoirs, appears to be a *Cinnyris* (*C. purparata*), which builds a somewhat similarly constructed nest.

The *Tailor Bird* is tolerably common in most wooded districts, and universally spread, frequenting cultivated ground, especially gardens, groves of trees, and also found in high jungle, in the more open spaces. It lives in pairs or in small flocks, incessantly hopping about the branches of trees and shrubs, peas and other vegetables, with a loud reiterated note, and picking various insects (chiefly ants and small larvæ) off the bark and leaves, and not unfrequently seeking them on the ground. It has the habit of frequently jerking up its tail while feeding or hopping about, and at times (especially when calling) it has the power of raising the feathers on the lower part of its throat, and displaying on either side a small black stripe. This has been noted by no one except Lieut. Hutton. The *Phootkee* has various notes, one of which sounds like *twee, twee, twee*, as mentioned by Colonel Sykes, and another which is generally used when alarmed or angry, and sounds like *chick, chick, chick chicky, chick.* It is a familiar bird, and ventures close to houses, but when observed becomes wary.

The *TailorBird's* nest truly merits all the praise and wonder that have been bestowed on it. I have seen several, and can bear testimony to the accuracy of Colonel Sykes' and Lieut. Hutton's accounts of it, as also to the accuracy of the coloured drawing of one which accompanied, a representation of this species in Guerin's 'Magasin de Zoologie.' Colonel S. has, however, on some occasion probably mistaken the nest of some other bird for it, as he says in his account of the nest and eggs,* that the latter are crimson, whereas in two instances, in which they were observed by me, they were white, spotted chiefly at the larger end with reddish brown, as described by Lieut. Hutton.

Length about 6 inches (to tip of longest tail feather); of wing about 2; tail $1\frac{8}{10}$ths; centre feather of ditto 1 inch more; tarsus $\frac{8}{10}$ths. Irides orange buff; bill brown above, flesh coloured below; legs flesh coloured.

115.—*O. Lingoo*, Sykes.

I have not hitherto procured this bird of which Colonel Sykes says

* Proceedings of Zoological Society for 1834.

" differs from the type of *Orthotomus* in its short tail. Principal food black ants. Length $5\frac{6}{10}$ths; tail $2\frac{1}{10}$th."

Gen. PRINIA, Horsf.—*Pit-pittee*, H.—*Wren Warbler.*

This genus, or sub-genus perhaps, though not admitted by Swainson, I am inclined to adopt in consequence of the well defined group of Indian birds classed under it, which do not exactly correspond with any of Swainson's, though they nearly approach to *Drymoica* (a subgenus of *Malurus*), and probably connect it to *Orthotomus*, with which they are also strongly allied. All the species I have noticed, have similar manners and habits. In this respect they somewhat approach the *Thimaliæ* or *Babblers*, which they perhaps represent in this family, as well in their long, indistinctly barred tail, long legs, short wings, and other structural points, as in their occasionally associating in small flocks, and their incessant calling.

116—*P. socialis*, Sykes.—*Ash-coloured Wren Warbler.*

This species of *Prinia* is unequally distributed over the peninsula, being tolerably common in some localities, and rarely met with in others. In the Carnatic, I have met it among reeds and long grass, by the side of rivers and tanks; on the west coast in similar situations, and much more common; while I have hitherto seen it but rarely in the table land. On the Neilgherries near Coonoor and Kotāgherry, it is very abundant in dry bushy ground.

Colonel Sykes says of this species " has the same ingenious nest, and has the same habits and note, and feeds in the same manner as *O. Bennettii.*" I have not verified this observation as to the nidification of this bird, and have found the nest of another species to be very different. Irides orange buff; bill black; legs flesh coloured yellow. Length $5\frac{2}{10}$ths; wing rather more than 2; tail $2\frac{3}{10}$ths; tarsus $\frac{8}{10}$ths.

117.—*P. gracilis*, Franklin.—*Small Wren Warbler.*

This species much resembles the last in colour, but is much smaller, white below, instead of fawn colour, and I have only hitherto found it in wooded places and jungly districts (frequenting trees as well as bushes) in the west coast, and northern part of the table land.

118—*P. inornata*, Sykes.—*Common Wren Warbler.*

This is a very common bird in all parts of the peninsula, frequenting low bushes on the open plains, hedges, low trees, grain-fields, &c. It is found generally in pairs, or sometimes in small flocks, feeds on ants, larvæ and various insects, and endeavours to conceal itself in the thick bushes or hedges, and on being driven away flies off to the nearest bush or tree with the low jerking flight common to others of the genus. I once procured the nest of this species, it was open at the top, neatly enough made with grass, well interwoven, without any lining, and fixed in a low bush, very near the ground: it contained four blue eggs. Irides, brownish yellow; bill, brown above, yellowish below. Length about 5 inches; wing $1\frac{9}{10}$ths; tail $2\frac{3}{10}$ths; tarsus about $\frac{9}{10}$ths.

119.—*P. Macroura*, Frankl. Cat.—*Long tailed Wren Warbler.*

This is a very closely allied species to the last, though perfectly distinct, differing in the more reddish or fawn tint of the brown, and the more rufous tint of the white. It is much more rare than the last, and prefers more jungly and wooded places. Length of one specimen 6 inches; of tail, rather more than 3; wing hardly $1\frac{9}{10}$ths; tarsus $\frac{8}{10}$ths. Irides, brownish orange; bill brown, pale yellow at the base of the lower mandible.

120.—*P. sylvatica.*—New species ?—*Jungle Wren Warbler.*

Descr.—Above olive brown; below and superciliary mark white, tinged with yellowish; tail obsoletely barred, with a larger bar at the tip, and terminated by white, except in the centre feathers; bill strong, black; legs flesh coloured. Irides orange buff. Length 6 inches; wing $2\frac{4}{10}$ths; tail $2\frac{7}{10}$ths; tarsus nearly one inch.

I have only seen this species hitherto in open forest jungle in the Segoor pass of the Neilgherries.

121.—*P. rufifrons.*—New species ?—*Red-fronted Wren Warbler.*

Descr.—Forehead and head rufous; above greenish ash coloured; beneath white; tail brown, and except in the centre feathers, broadly terminated by white, especially the outer feathers. Bill brown, pale below; legs flesh coloured. Irides pale orange buff. Length 5 inches, wing rather more than $2\frac{1}{10}$th; tail $2\frac{2}{10}$ths; tarsus $\frac{8}{10}$ths. I have only

seen this apparently new species in low thick jungle in the neighbourhood of Jaulnah. It associates in small flocks; is very wary, flying before you from bush to bush, with a low chirping note, and so much the manners of a *Thimalia*, that I at first mistook it for one.

122.—*P. cursitans*, Frankl. Cat.—*Ghas ka Phootkee*, or *Ghas ka Pitpittee*—*Grass warbler*—*Meadow Wren Warbler.*

This curious lark-plumaged little species of *Prinia* frequents long grass, whether on sides of nullahs, or in the open plains, and is far from being uncommon in most of the large rumnahs of the table land. I have also seen it in the west coast. When disturbed it takes a short interrupted flight, and on seating itself hides among the tufts of grass, and often runs several yards. It feeds on ants, the larvæ of small grasshoppers, and various other insects. This bird if not an aberrant species of Swainson's genus *Praticola*, is probably a link joining it to the *Priniœ*. It differs from the character of *Praticola* in its shorter hind claw, and unnotched bill. Irides brownish yellow; bill brownish above, pale below; legs flesh coloured. Length 4 to $4\frac{1}{4}$ inches; of wing 2; tail nearly 2; tarsus nearly $\frac{8}{10}$ths. I have specimens smaller than this in every respect, killed below the ghauts.

Sub Genus SYLVIA.—*True Warbler.*

123.—*S. Montana*, Horsf.

This species (if truly distinct), which differs from the next only in size, is rare in the peninsula. I possess but one specimen, the locality of which I have mislaid. Length $5\frac{9}{10}$ths; wing $2\frac{4}{10}$ths; tail rather more than 2; tarsus, $\frac{8}{10}$ths; first quill feather very minute and sharp pointed, 2d quill feather longer than the 6th.

124.—*S. Rama*, Sykes.—*Village Warbler.*

This is a tolerably abundant bird in most parts of India, frequenting hedges, gardens and trees, in cultivated ground, and near villages. It is lively and active, hopping about the branches, and capturing various small insects, occasionally on the wing, but generally on the branches or leaves. It has a rather harsh chuckling note which it incessantly

utters on being approached, and endeavours to hide itself, creeping to the farther side of the tree. Some time ago a nest, carelessly put together with twigs and grass, containing 4 pure white eggs, was brought to me as the nest of this species. It was found in a hedge. Irides yellowish brown; bill brown above, yellowish below; feet flesh coloured yellow. Length $4\frac{8}{10}$ths; tail about 2 inches; wing to end of 3d quill $2\frac{4}{10}$ths; 1st a spurious quill feather larger and more rounded than *in the last*, and the 2d is only equal to the 7th.

125.—*S. Trochilus*?—*Willow Warbler* of Europe.

I possess a single specimen, of what I suppose is this bird, obtained lately in a wooded valley, along the edge of the northern range of ghauts. It appeared active and lively in its habits, occasionally flying from some reeds, and perching on a stone in a brook, and from thence making short sallies after insects in the air, or seizing one on the sand of the rivulet. I shall here add a brief description of my specimen. Above brownish olive; beneath whitish, tinged with yellow on the underwing, and tail coverts also on the outer edge of the wing. Length not quite 5 inches; of wing $2\frac{1}{2}$; bill and legs brownish black.

126.—*S. hippolais*?—*Chif-chaff* of Europe.

I possess specimens of what I shall consider as this bird, till they have been examined and identified in Europe. I procured them in the elevated district of Wynaad, and on the Neilgherries. Two of the specimens have their plumage consisting entirely of green and yellow, but these, I see, are considered by Yarrell as young birds. They were seen hopping briskly about the branches of high trees. Irides light brown. Length $4\frac{6}{10}$ths; wing $2\frac{3}{10}$ths; tail $1\frac{8}{10}$ths; bill much wider than in the last species.

127.—*S. Indica.*—New species?

This warbler somewhat approaches the description of *S. Javanica* of Horsfield, but differs in wanting the fulvous hue of the forehead and chin. I have hitherto seen it but rarely, and only in the more northern parts of the table land, during the cold weather. I saw it frequenting trees, hopping briskly about the smaller twigs; also on one occasion on a bush on the side of a precipitous rocky mountain.

Descr.—Above olive grey; beneath olivaceous yellow; eye-streak bright yellow; bill brown above, yellowish below; legs greenish brown. Length 5 inches; of wing $2\frac{4}{10}$ths; tail about 2; tarsus $\frac{8}{10}$ths.

Sub Family PARIANÆ.—*Tits.*

Sub Genus ZOSTEROPS, Horsf. and Vig.—*White-eye.*

128.—*Z. Maderaspatensis.*—*Mot. Maderaspatana*, L.—*S. leucops*, Vieill. Encycl. Meth. p. 441.—*S. palpebrosa*, Temm. P. C.—*Indian White-eye.*

This pretty plumaged little bird I have hitherto found in greatest abundance on the summit of the Neilgherries. Towards the more northern portion of the table land, it begins to occur, though sparingly, in the more wooded parts; and it is of tolerably frequent occurrence among the more wooded valleys of the northern ghauts. On the Neilgherries it frequents both the thick woods and gardens, and in the latter may often be seen clinging to the flower stalks, extracting the minute insects that infest flowers, by the pollen of which its forehead is often powdered. It feeds generally in small flocks, is lively and brisk in its movements, and keeps up a continual feeble twitter. Irides light yellowish brown; bill blackish; legs horn coloured. Length about $4\frac{1}{2}$ inches; wing $2\frac{3}{10}$ths; tail $1\frac{7}{10}$ths.

Sub Genus PARUS.—*Tit.*

129.—*P. atriceps*, Horsf.—*Black-headed Tit.*

I have only seen this Indian *Tit* towards the south of the peninsula on the Neilgherries, where it is common in the woods, associating in small families, and feeding on various insects and seeds, to obtain which it occasionally resorts to the gardens. I have seen it once or twice only along the range of northern ghauts, but it probably is to be found all along the range of western ghauts, as it is enumerated in the catalogues both of Colonel Sykes and Mr. Elliot.

130.—*P. Xanthogenys.*—*Yellow cheeked Tit.*

This species is also an inhabitant of the Neilgherries, but I only observed it in the warmer parts about the edges of the hills. I have

hitherto observed it in no other locality, but it is mentioned in Mr Elliot's catalogue, as well in Colonel Sykes'. Food and habits of the last. Irides light brown.

131.—*P. melanolophus*, Vigors.—Gould's Cent.

I have only observed this pretty little species in Goomsoor, where I found it frequenting lofty trees in open spaces in the jungle.

132.—*P.? minutus.*—New species?

I lately obtained in a wooded valley at the edge of the northern ghauts a single specimen of a small species of *Tit*, but unfortunately in imperfect plumage. It has the upper surface of the body of a greenish ash colour, tinged on the forehead, rump, and upper tail coverts with greenish yellow; beneath cinereous white, tinged in spots with light yellow; wing coverts edged with greenish yellow; bill and legs lead colour. Irides light brown. Total length about $3\frac{8}{10}$ths of an inch; of wing $2\frac{4}{10}$ths; tail $1\frac{1}{4}$; tarsus $\frac{5}{10}$ths. Its bill is larger, and less robust than in the *Tits*, in general approaching that of *Ægithalus*.

Sub Genus PARISOMA, Sw.?—Vieill.—Sect. 1. Swains.?

133.—*P.? vireoides.*—New species.?—*Olive Tit.*

This curious little bird appears to be a link joining the *Parianæ* to the *Vireoinæ*. It has the bill considerably more strongly developed than in *Parisoma*, as described and figured by Swainson, but as it otherwise appears to agree with it, may be considered as an aberrant species. I first obtained this *Tit* in open spaces in the jungle in Goomsoor, and have lately observed it in lofty trees towards the more northern portion of the table land. It associates in small flocks, and frequents the highest branches, hopping briskly about, and diligently examining the leaves, fruit and flowers for various insects. I found its food to consist of small spiders, insects, eggs and larvæ, aphides and various other minute insects.

Descr.—Above, greenish olive; wings and tail brownish; the feathers of the former edged with light olive, and those of the tail tipped with white; beneath, dirty greenish white; bill and legs lead colour. Irides orange yellow. Total length 4 inches; wing $2\frac{2}{10}$ths; tail $1\frac{2}{10}$ths; tarsus $\frac{5}{10}$ths.

Sub Family MOTACILLINÆ.—*Wagtails.*

Gen. BUDYTES, Cuv.

134.—*B. citreola.*—*Yellow headed Wagtail.*

This species is occasionally met with in most parts of India, during the cold season, but is not nearly so abundant as the next species. I have seen it on the banks of rivers, and also in wet paddy-fields.

135.—*B. neglecta*, Gould.—*B. Beema*, Sykes.—*B. flava*, of Continental authors.—*Peelkya*, H.—*Yellow Wagtail.*

The *B. Beema* of Sykes, appears to be identical with the species from the continent of Europe, lately pointed out by Gould, as differing from the *B. flava* of Britain.

The *Peelkya* is an extremely common bird in all parts of India, during the cold weather, remaining till April. It associates together occasionally in large flocks, frequenting damp spots of ground near tanks, and marshy places, but also the grain-fields, and dry plains, feeding among cattle. Single birds, however, or two or three together, are not uncommonly seen about houses, and in gardens, sometimes perching on trees, or the top of a house, or wall. It feeds on various minute insects and their larvæ.

136.—*B. melanocephala*, Sykes.—*Black headed Wagtail.*

I am very doubtful if this is a distinct species from the last. It is generally found in company with it, and I have seen many specimens during the moulting, when there were only a few feathers on the head, that had assumed the black. I have a specimen with the head of a lead colour, and a stripe from the angle of the mouth to the ears only black, without any superciliary stripe. This is probably the female, whether it be a distinct species, or only the winter plumage of the last. Habits and food, same as the last.

136.—bis.—*B. flava*, Ray, Gould.—*Yellow Wagtail* of British authors.

If the yellow superciliary mark be an unerring characteristic of this British bird, it may also be enumerated as a winter visitant to India. I have shot it in company with *B. neglecta,* and the last.

Gen. MOTACILLA, Auct.—*True Wagtail.*

137.—*M. boarula.—Wood* or *Jungle Wagtail.*

This species is numerous on the Neilgherries, where it frequents running streams, also enters gardens, &c. It is very abundant on the passes leading up to the hills, hopping along the road, and flying before a traveller, often for some distance. I have once or twice seen it lately in woody streams in the more northern portion of the table land, during the cold weather only.

138.—*M. Maderaspatensis,* Auct.—*M. picata,* Frankl.—*M. variegata,* Steph.—*Mhamoola,* H.—*Indian Black* and *White Wagtail.*

This species is found throughout the peninsula, only in beds of rivers. Length nearly 9 inches; tail 4; wing $3\frac{8}{10}$ths.

139.—*M. variegata,* Vieill.—Encycl. Method. p. 408.

I have not myself met with this species, which Mr. Elliot's notes have made known to me as an Indian bird, and from which I take the following description, " Above brown cinereous; beneath white; wings medial; tail feathers (not the centre ones), and two chest-bands, black; eye-brows, two diagonal bars on the coverts, and an imperfect third one on the quills, and ends of two outer rectrices, white; two brownish lines down the throat. Length $6\frac{1}{2}$ inches." I see this is also enumerated by M. Lesson, as an inhabitant of Bengal.

140.—*M. alba,* Auct.—*Mot. Dukhunensis,* Sykes.—*Dhobeen,* H.

I have not hitherto observed this species in the Carnatic, but it is very common over most of the table land, during the cold weather only, migrating to the north, at the commencement of the hot season. It frequents rivers, open fields, gardens, villages, stable yards, &c., and occasionally even enters houses, feeding on a great variety of insects.

Genus ANTHUS.

I shall under this genus, enumerate two species, which although they do not exactly come under Swainson's restricted definition, are yet considered as *Anthi*, by most authors, and they have more of the manners of this family than of the *Larks*, with which Swainson has very properly, I think, associated most of the species, of the *Anthus*, of older authors.

141.—*A. arboreus ?—Tree Pipit ?.—Musarichee*, H.

This species, so much resembles the description of the *Tree Pipit* of Europe, that in the absence of more precise information, I shall consider it as such. It is only a visitor, during the cold weather, coming in October, and remaining till April or May. Associates generally in small flocks, frequenting beds of wooded streams, edges of tanks, and other moist places. Is also found in grain-fields, gardens, and groves of trees. It feeds partly on the ground, on various insects, and also on grain, and on being disturbed flies up to the nearest tree. It frequently, however, feeds on trees, hopping about the upper branches, like a *Sylvia*, and occasionally even snapping at an insect on the wing. Mr. Elliot says, "Its flesh is used by falconers as a restorative to the *Bhyree*, and is said to be very delicate." Length $6\frac{1}{2}$ inches; wing $3\frac{1}{2}$.

142.—*A. Richardi ?*

It is with some hesitation, that I consider the specimen, which I possess, to be the same as the *Anthus Richardi*, but as it appears to agree with many of the characters, as given in the descriptive works I possess, I shall do so provisionally, till correct information be obtained.

I have only met with this bird, on one occasion, on the banks of the Tumbuddra. It was in pairs, and its manner of flight was exactly similar to that of the *Wagtails*.

Descr.—Above olive brown, shaded with dusky, and many of the feathers edged with whitish; beneath whitish, the breast streaked with brownish, and a brown streak running down from the base of lower mandible on either side. Irides brown. Length $7\frac{1}{2}$ inches; wing $3\frac{7}{10}$ths; tail about 3; tarsus $1\frac{2}{10}$ths; hind toe $1\frac{1}{10}$ths (with claw); claw alone $\frac{6}{10}$ths.

FAM. MUSCICAPIDÆ, Swains. ?

SUB FAM. MUSCICAPINÆ, Sw.—*True Flycatchers.*

GENUS RHIPIDURA, Vig. and Horsf.

SUB GENUS LEUCOCIRCA, Swains.—*Fantailed Flycatcher.*

143.—*L. albo-frontala.*—*R. albo-frontala,* Frankl.—*White browed Fantail.*—*Mucchureea* (i. e. *Mosquito catcher*), H.—*Manatee,* Mal.

This pretty and lively *Flycatcher,* is only to be met with in the southern parts of the peninsula, in well wooded districts, and open forest jungle, as in Travancore and Malabar. I have never seen it in the Carnatic. Towards the northern part of the table land, however, it is much more common, being met with during the cold weather in every clump of trees, and in wooded nullahs, indeed, throughout the year. It is a most active and restless little creature, continually flitting about, from branch to branch, snapping up an insect on the wing, every now and then, and raising its outspread tail, and lowering its wings, whenever it reseats itself on a twig. It is by far the most restless of all the Indian *Flycatchers,* seldom returning to the same perch, but traversing successively all the branches of the large trees it delights to frequent. It is by no means uncommon in gardens, seating itself on the sticks of peas or beans. I have once or twice seen it perched on the back of a cow, that was laying down beneath a tree, and pursuing insects from this unusual perch. I have also seen it on the ground, near a thick hedge side. It has a very sweet little song, which it warbles forth every now and then, consisting of several notes following each other regularly in the descending scale. Its chief food is small soft-winged insects, especially musquitoes. Its Malyalam name signifies '*washerwoman,*' and is given from the continual motion of its tail. Irides dark brown; bill and legs black. Length about 7 inches; tail 3 $\frac{7}{10}$ths; wing 3 $\frac{2}{10}$ths; tarsus $\frac{7}{16}$ths.

144.—*L. fuscoventris.*—*R. fuscoventris,* Frankl.

I have not hitherto shot this species, and have only once observed it in low bushy ground on the Neilgherries. Colonel Sykes mentions it as frequenting the same localities as the last species.

Genus MUSCICAPA, Auct.

Sub Genus CRYPTOLOPHA, Sw.

145.—*C. poioicephala*, Swains. Nat. Libr. vol. 21, Pl. 23.—*Grey-headed Flycatcher.*

The only locality in the more southern part of India, where I have met this curious little bird, is the summit of the Neilgherries, in the dense woods of which it is not very uncommon. In the northern part of the Deccan, however, it is occasionally to be met with, only in the cold season however, in large topes of trees, and it increases in number towards the north, and in the jungly valleys and nullahs of the northern ghauts, it is by no means rare, always frequenting by preference the deepest thickets. Though not so lively as the *Fantails*, it is yet more so than many of the *Flycatchers;* it frequently sallies forth from its perch on a twig after passing insects, and does not always return to the same branch, and often changes its perch, though it remains for some time in the same locality. It has a pleasant but feeble chirping note. Irides deep brown; bill brown above, pale beneath; legs reddish. Length rather better than 4½ inches; wing 2 $\frac{5}{10}$ths; tail 2 $\frac{2}{10}$ths; tarsus ½ inch.

Sub Genus MUSCIPETA, Cuv., Swains.

146.—*M. Paradisi*, Auct.—Sykes' Cat.—*Houssenee Bulbul*, H.—*Long tailed white Flycatcher.*

This most lively and elegant bird, is far from being common in any part of the peninsula, but is to be found in greatest plenty in the extensive woods of the western coast. Occasionally it is met with in the Carnatic, in the more wooded parts, and even in gardens, as also, though more rarely, on the table land. It feeds chiefly on insects caught on the wing, now and then snapping a caterpillar or other insect off a branch.

I never saw it feed on the ground, as mentioned by Colonel Sykes, nor have I usually found its food to consist of very minute insects, having on several occasions seen this as well as the next species, feasting on good sized caterpillars, but my opportunities of observing it have hitherto been few. This, as well as the *Sultana Bulbul*, are certainly

less sedentary in their habits, than the true *Muscicapæ*, and have the habit of wandering more from tree to tree, and less frequently returning to the same perch. This, in accordance with Le Vaillant's observations, as mentioned by Swainson. The flight of this species is very elegant. I always observed it single. I have not had the means hitherto of verifying Colonel Sykes' remarks on the females of this, and the next species. The female of this as described by Colonel Sykes, appears to be identical with the supposed new species of Swainson, figured in his volume on *Flycatchers*, in the Naturalists' Library, under the name of *M. leucogaster*. Length about 10 inches; of wing $3\frac{8}{10}$th; tail 5 to 6 inches; tarsus $\frac{7}{10}$ths; bill to front $\frac{7}{10}$ths; at gape $1\frac{1}{10}$th; bill and naked skin round eye of a delicate lilac blue colour; feet plumbeous. Irides deep brown.

147.—*M. Indica*, Steph.—*M. castanea*, Temm.—*Shah Bulbul*, or *Sultana Bulbul*, H.—*Long-tailed red Flycatcher.*

The *Sultana Bulbul* is more common, and more generally spread than the last, though far from being abundant. Food, manners and habits of the last. Dimensions, &c. as in *M. Paradisi.*

Sub Genus MUSCICAPA, Sw.

148.—*M. cærulea*, Veiell. Encyl. p. 807.—*M. occipitalis*, Vig. Proc. Z. S. for 1831.—*Black-naped Blue Flycatcher.*—*M. cæruleocephala*, Sykes' Cat. Young bird ?—*Gobe-mouche bleu des Philippines*, Buffon. *Pl. En.* No. 666, fig. 1.

The *M. occipitalis* of Vigors, appears to be identical with the bird previously named as above. It is very rare in the peninsula. I have only seen it twice, once on the Coonoor pass of the Neilgherries, and again in the Wynaad, in both places in dense jungle. I have also seen a specimen shot in the Malabar Coast. At the times I observed, it was flying from tree to tree, remaining on each a short time, and capturing an insect or two, and then resuming its flight. The form of this *Flycatcher* is peculiarly slender and delicate, differing much from the more rounded and compact forms of the true *Muscicapæ*. Irides deep brown; bill bluish; legs bluish black. Length 6 inches; of wing to end of 5th quill $2\frac{8}{10}$ths; of tail $2\frac{3}{4}$; tarsus $\frac{7}{10}$ths; bill to front $\frac{4}{10}$ths; to gape $\frac{6}{10}$ths. This is evidently an aberrant species, leading to *Myia-*

gra by its long tail (which is slightly rounded), and other peculiarities of form.

149.—*M. pallipes.*—New species ?—*M. Indigo,* Horsf. ?—*White bellied blue Flycatcher.*

This species resembles much the description of *M. Indigo* of Horsfield, but that is said to be only 4½ inches long (Griff. Cuvier), and is therefore perhaps distinct. I have only shot a single specimen of this species, in thick forest on the Coonoor ghaut, where I observed it darting on insects from its perch on a low branch.

Descr.—Entirely of a deep indigo blue, except belly and under tail coverts, which are white; wings and tail dusky on their inner webs; bill, black; legs, feet, and claws pale whitish flesh-colour. Irides deep brown. Length about 6½ inches; of wing $3\frac{1}{10}$ths; tail 2½; tarsus more than $\frac{7}{10}$ths; bill to front about $\frac{5}{10}$ths; to gape $\frac{8}{10}$ths; the 5th and 6th quills are subequal and longest, and the tail is nearly even.

150.—*M. Banyumas,* Horsf.—*Red breasted blue Flycatcher.*

This pretty little species, is spread, though sparingly, throughout India, and I have met it wherever there was much wood, in Goomsoor, in the Northern Circars, at the Tapoor pass, in the Carnatic, and on the west coast, where it is of tolerably frequent occurrence. I have also seen it in the northern part of the bare table land, once in a clump of trees near a village, and again in a jungly nullah. It feeds in general, like its congeners, from a fixed perch, catching its prey on the wing, but I have repeatedly seen it descend to the ground to pick up an insect, and even hop a step or two whilst down.

The structure of its bill is similar to that of the last, viz. long and tapering, and the 4th and 5th quills are subequal and longest; bill black; legs brownish. Irides deep brown. Length rather more than 5½ inches; wing $2\frac{9}{10}$ths; tail $2\frac{3}{10}$ths; tarsus $\frac{7}{10}$ths; bill to front $\frac{4}{10}$ths; to gape $\frac{7}{10}$ths.

151.—*M. melanops,* Vig.—Gould's Cent.—*Pale blue Flycatcher.*

I possess two specimens, of what I consider to be this species, as well from the drawing in Gould's Century, as from the description. The one I procured in Goomsoor, the other in a jungly valley at the edge

of the northern ghauts near Ajunteh. It captures its insect prey on the wing, as well as occasionally on the ground, returning to the same perch. Length about 6 inches; of wing 3 $\frac{3}{10}$ths; tail 3 inches; tarsus $\frac{6}{10}$ths; bill to front $\frac{3}{10}$ths; to gape $\frac{6}{10}$ths; bill and legs black. Irides deep brown; bill short triangular—4th quill the longest, 3d subequal to the 5th.

152.—*M. albi-caudata.*—New species?—*M. thalassina,* Swains.?—*White tailed* or *Neilgherry Blue Flycatcher.*

Descr.—Of a deep indigo blue colour, inclining to lazuline on the forehead, head and shoulders; belly ashy blue mingled with whitish; under tail covert whitish, barred with dusky blue; wings and tail dusky black; the feathers edged with blue, and those of the tail (the centre feathers excepted) white at their base; bill and legs black. Irides deep brown. Length 6½ inches; of wing 3 $\frac{2}{10}$ths; tail 2 $\frac{6}{10}$ths; tarsus $\frac{7}{10}$ths; bill to front $\frac{4}{10}$ths; to gape $\frac{7}{10}$ths; bill rather longer and less triangular than in *M. melanops,* not so long as in *M. pallipes* and *M. banyumas*—4th and 5th quills equal and longest.

I have hitherto only found this species on the Neilgherries, in the dense woods of which it is far from being uncommon. It captures insects of various kinds on the wing, from a fixed perch, occasionally a small flock of five or six of them are seen together in a state of continual movement, taking short darts and gambols in the air, as much in sport apparently, as in actual pursuit of insects.

153.—*M. superciliaris.*—New species?.—*White browed blue Flycatcher.*

Descr.—Above and sides of the breast, of a beautiful light indigo, or rather prussian blue, beneath; superciliary stripe extending to some distance behind the eyes, and base of the tail; feathers (except the central ones), pure snowy white. Some of the feathers of the rump with the shaft, and a bar in the middle of the feather, also white; bill and legs black. Irides deep brown. Length 4¾ inches; wing 2 $\frac{5}{10}$ths; tail 1 $\frac{8}{10}$ths; tarsus $\frac{6}{10}$ths; bill to front $\frac{3}{10}$ths; to gape $\frac{6}{10}$ths; bill more lengthened than in the two last, very little compressed; wings with 4th quill longest, 3d and 5th subequal.

I lately obtained a single specimen of this beautiful little species, in a wooded valley, at the edge of the range of northern ghauts.

154.—*M. Poonensis,* Sykes.—*M. latirostris,* Swains. Nat. Lib. vol. 21?—*Zukkee,* H.—*Indian Grey Flycatcher.*

I possess two specimens, which, as they differ only in size, I consider as identical with the species named as above by Colonel Sykes, and Swainson's supposed new species does not appear to differ from them. The smaller of my specimens was procured in the hot Carnatic, near Trichinopoly, the larger one on the Coonoor pass of the Neilgherries, at a considerable height. I have observed it on several other occasions, both in the Carnatic, and on the Malabar Coast. It feeds on insects, which it captures on the wing from a fixed perch, and it is, I think, more sedentary in its habits than any of the previously described *Flycatchers*. Bill blackish above, whitish below, except at tip; irides deep brown; legs brown. Length of my specimens 5 and $5\frac{3}{4}$ inches; of the first, the wing is $2\frac{7}{10}$ths; tail 2; tarsus $\frac{5}{10}$ths; bill to front $\frac{4}{10}$ths; to gape nearly $\frac{7}{10}$ths. In the larger one the wing is $2\frac{1}{10}$ths. In both the 3d and 4th quills are equal and longest.

155.—*M. hirundinacea*, Horsf., Temm.—*M. picata*, Sykes.—*Tephrodornis hirundinaceus*, Sw.?—*Black and white Flycatcher.*

This bird has so much the habits, as well the general structure and appearance of a *Flycatcher*, that I shall for the present here retain it, and a closely allied species, although Mr. Swainson has, I see, ranged it as a *Tephrodornis.*—Vide remarks *postea.*

I have only hitherto seen it on the Neilgherries, where it is not very uncommon in the woods, darting upon insects in the air from a branch, and though perhaps it wanders about more than many of the genus, is yet not nearly so restless as the *Fantails.* Bill and legs black; irides sienna yellow. Length $5\frac{1}{2}$ to 6 inches; of wing $2\frac{9}{10}$ths; of tail $2\frac{4}{10}$ths; tarsus nearly $\frac{1}{2}$ inch; bill to front $\frac{4}{10}$ths; at gape $\frac{7}{10}$ths.

156.—*M. erythropygia.*—New species?—*Tephrodornis?*—*Red breasted Flycatcher.*

Descr.—Male:—plumage above, cheeks and chin, of a glossy blue black; beneath, longitudinal stripe on the wings, and outer edges and tips of the lateral tail feathers, white; breast and rump of a beautiful orange red, darkest on the rump.

Female,—with the parts black in the male, of an ashy brown (except the tail which is deep black); feathers at the base of the bill above whitish; rump, outer edges and tips of the lateral tail feathers, and beneath, white, tinged with ashy on the breast. Bill and legs black;

irides brownish yellow. Length 6½ inches; of wing $2\frac{7}{10}$ths; tail $3\frac{3}{10}$ths; tarsus ½ inch; bill to front $\frac{3}{10}$ths; at gape $\frac{6\frac{1}{2}}{10}$ths.

I have only once seen this prettily marked species, in low and thick jungle on the top of the ghauts, near Ajunteh, when I fortunately procured both male and female. I found fragments of various insects in their stomachs, but had no opportunity of observing their manner of feeding or other habits.

These two last species certainly differ from *Muscicapa* in some particulars. Their tarsi are distinctly scaled, and the bill (especially of the former species), is stronger, more *shrike*-like, and less depressed; but their small size, the habits as observed of the first species, and general appearance, led me in the first instance to overlook these differences, and I had not observed that Swainson had described the first as a *Tephrodornis*, when I was enumerating the species of that genus.

Tribe CONIROSTRES.

Family CORVIDÆ.

Sub Family CORVINÆ.

Genus CORVUS.—*Crow.*

157.—*C. splendens*, Vieill.—*Patee Kowa*, H.—*Common Crow.*

This is the common crow of India, and is most abundant every where, roosting on high trees, and spreading in the morning through villages, and cantonments, &c. It is a most familiar, noisy and impudent bird. It breeds on trees in the hot weather.

158.—*C. macrorhynchos*, Wagl.—*C. culminatus*, Sykes.—*C. corone*, var., Frankl. Cat.—*Dheree Kowa* or *Kurrial*, H.—*Large black crow.*—*Indian Carrion Crow.*

This species, though not so numerous as the last, is yet very abundant, and nearly equally troublesome and impudent. It partakes more readily than the last of carrion, and I think the *King Crows* appear to pursue it with greater hatred than the common crow, so it probably

occasionally pilfers their eggs or young. Irides dark brown; bill and legs black. Length 21 inches; of wing $13\frac{4}{10}$ths; tail $7\frac{3}{4}$; tarsus $2\frac{1}{2}$; bill to front $2\frac{4}{10}$ths; at gape $2\frac{1}{2}$.

Sub Family GLAUCOPINÆ, Swains.

Genus CRYPSIRINA, Vieill.—Dendrocitta, Gould.—*Tree Crow,* or *Magpie.*

As Swainson asserts the identity of these two genera, I take the former as being the legal generic name.

159.—*C. vagabunda.*—*Pica vagabunda,* Gould's Cent. pl. 42.—Gray and Hardw. Ill. I. Z.—*Coracias vagabundus,* Lath.—*Maha Lat,* H. of some *Shikarees.*—*Indian Magpie.*

This bird, the *Indian Magpie,* is generally spread throughout the South of India, but is only at all plentiful on the well wooded western coast, where it is to be seen and heard in every lofty avenue. In the Carnatic, I have only seen it in the jungly district near Touremcourchy, and in the table land it is also rare, being met with only occasionally in jungly districts, or in the neighbourhood of well wooded villages. It frequents the highest jungles occasionally, not in their densest portions, however. This bird is found single or in pairs, occasionally four or five being seen together. It lives, as far as I have ascertained, entirely on fruit of different kinds, and is very fond of the fruit of the banian. It has a most peculiar cry, something like the metallic sound of the call of the *Racket-tailed Drongo (Dicrurus retifer),* but its usual call is a harsh rattling cry, like that of the European *Magpie.* Irides blood red; bill black; legs slate colour. It is considered by the natives as a kind of *Shrike.* Length about 16 inches; wing 6; tail 10; tarsus $1\frac{3}{10}$ths; bill straight to gape $1\frac{2}{10}$ths.

160.—*C. lencogastra.*—*Dendrocitta lencogastra,* Gould, Trans. Zool. Soc. vol. 1, pl. 12.—*Long tailed Magpie.*

This very elegant species is much more rare than the last. I have only seen it in the jungles of Malabar and the Wynaad. It frequents the densest portions of the jungles, and is extremely shy and wary, feeding like the last on various fruit and berries. It has a somewhat

similar call. Irides blood red; bill black; feet plumbeous. Length 18½ to 19 inches; wing 5¾; tail 12; tarsus 1$\frac{3}{10}$ths; bill straight to gape 1$\frac{2}{10}$ths.

161.—*C. Sinensis.*—*Pica sinensis,* Gould's Cent. Him. Birds, pl. 43.

I have hitherto not been fortunate enough to procure this bird, though I think I have observed it in open jungle on the Segoor pass of the Neilgherries; but I have seen specimens, killed in the eastern range of ghauts.

Family STURNIDÆ.—*Starlings.*

Sub Family STURNINÆ, Swains.

Genus STURNUS, Lin.

162.—*S. contra,* Gmel.—*S. capensis,* Lath.—*Pastor Contra,* Wagl.—Buffon P. E. 280.—*Indian Starling.*

The *Indian Starling* occurs in great abundance in the district of the Northern Circars, but, as far as I can learn, in no other part of the peninsula of India. I first met it a few miles to the north of Vizagapatam, and saw it afterwards throughout the whole district to the northward, as far as the Goomsoor country, where it is very numerous. It lives in large flocks, feeding on the ground and associates freely with the common *Myna.*

I know not if it remains here during the whole season. I saw it in the cold weather. Length 8½ inches; wing 4 $\frac{6}{10}$ths; tail 2¾; tarsus 1$\frac{3}{10}$ths; bill to front $\frac{9}{10}$ths; straight to gape 1$\frac{7}{10}$ths.

Genus PASTOR.—*Myna,* H.

163.—*P. tristis,* Temm.—*Gracula tristis,* Lath.—*Grac. gryllivora Dand,* Buffon P. E. 219.—*Myna,* H.—*Saloonkee,* Mah.—*Gorwuntra Cau.*—*Common Myna.*

This well known and common bird is found throughout India, preferring the neighbourhood of cultivation and villages, and never found in high or dense jungle. It roosts in numerous flocks, generally on high trees, and disperses in various parties of two, four, six, or more, about sun-rise. Some enter the villages and cantonments, others attend flocks of sheep or cattle, which they follow while grazing, feeding on the grasshoppers and other insects, disturbed by the treading of the cattle. The *Myna* also will feed on grain, and seeds of various kinds, and is very fond of white ants. Its flight is swift, steady and direct. It breeds, I am informed, in the holes of old trees, walls, old buildings, &c., during the hot weather, and is said to have 3 or 4 eggs of a greenish blue colour. It is very often taken when young, and caged, becoming very familiar, and learning to repeat words and sentences with great ease. Its cries are many and varied, most of them harsh, loud and disagreeable, but it has also some sweet and agreeable notes. Length varies from 10½ to nearly 12 inches. Irides reddish brown, studded (as Colonel Sykes remarks) with whitish specks on their external margin; bill and legs yellow; naked skin round eyes, orange yellow.

164.—*P. fuscus*, Wagl. ?—*P. Mahrattensis*, Sykes ?—*Hill Myna.*

This very closely allied species, I have found, in greatest abundance, on the Neilgherries, where it accompanies cattle like the last (whose place it supplies here), and also frequents gardens, eating various seeds, and fruit. I have also seen this species in the Wynaad, and I think, on one occasion, in Mysore. I have united Colonel Sykes' name to that previously given by Wagler, and have little doubt but that they are the same bird. Colonel Sykes however, says " possesses no crest," and Wagler does not mention one, though he probably infers it, as he says, " very similar to *P. Tristis*." Now my specimens, though they have not the flowing crest of the common *Myna*, have the feathers of the head lengthened, and those of the forehead are somewhat raised, as in *P. cristatellus*. It has not the naked yellow skin round the eye of *P. tristis*. Length 9 to 9½ inches; wing 5; tail 3; tarsus 1 $\frac{4}{10}$ths; bill to front nearly $\frac{7}{10}$ths; at gape 1 $\frac{2}{10}$ths. Irides greyish white; bill orange yellow; feet gamboge yellow.

165.—*P. pagodarum*, Temm.—*Turdus pagodarum*, Gmel.—*Le Martin Brame*, Le Vaill. *Ois. D'Afr.* pl. 95-2.—*Popoya Myna*, H.—*Brahminy Myna* of Europeans in India.

The Carnatic appears to be the head quarters of this species of *Myna*, as it is the only district in which it can be said to be numerous. I did not observe it in the Northern Circars, nor in the wooded region of the west coast, though I doubt not, that it may occur occasionally in both regions, and in the central table land of the peninsula. I have only observed it rarely, few in number, and in the cold season. In the Carnatic (as about Madras and Trichinopoly) it is extremely abundant, feeds chiefly on the ground, on grasshoppers, and other insects, in small parties, and is very sprightly and active; walking and hopping about, sometimes in company with the common *Myna*, and often seen among cattle. It also, however, feeds on trees, on various fruit, berries and flower buds, and this seems to be its usual habit on the few occasions I have observed it out of the Carnatic. Its notes are somewhat similar to those of the common *Myna*. It has also, however, a pleasant song. Length 8 to $8\frac{1}{2}$ inches; wing $4\frac{2}{10}$ths; tail $2\frac{1}{2}$ to 3; tarsus $1\frac{1}{10}$th; bill (to front) $\frac{6}{10}$ths; at gape 1 inch. Irides greenish white; bill at base blue, then greenish, and yellow at tip; legs bright yellow.

166.—*P. Malabaricus.*—*Turdus Malabaricus*, Gmel.—*Le Martin Vieillard*, Lesson.—*White headed Myna.*

Wagler has committed a capital mistake when he pronounces this to be the adult female of the last, and shews how much caution should be used by naturalists at home, before deciding on the identity of birds, whose general appearance and structure is similar, though in this case the difference of structure, as well as of plumage, might have suggested the contrary opinion. The *white headed Myna* is only found, as far as I am aware, in the lofty jungles of the Malabar coast, frequenting high trees in the more open spaces of the jungle, living in small families, and feeding chiefly on various kinds of insects, larvæ, and in one or two instances, as I found, on small snails. It climbs about the trunk and branches of trees with great facility, and never that I observed, descends to the ground. It has a very sweet song. Mr. Elliot mentions it as found in the forests of the Southern Mahratta Country, but as it is not included in Colonel Sykes' catalogue, it probably does not extend so far to the northward as his district. Feathers of the head and neck beautifully white, and silky in adult specimens. In some birds the white of the neck extends over the breast, and part of the belly, nearly hiding the usual rufous tint of those parts. Irides, greyish white;

bill blue at base, greenish in centre and yellow at tip; legs reddish yellow; claws pale yellow. Length 8 to $8\frac{1}{2}$ inches; wing $4\frac{2}{10}$ths; tail $2\frac{7}{10}$ths to 3; tarsus 1 inch; bill to front $\frac{7}{10}$ths; at gape $1\frac{1}{10}$th.

I may here mention, that I think there exists another species of *Pastor*, nearly allied to this, and differing only in size and in the colour of the head and neck, which are permanently grey, instead of assuming a white plumage. I possess only one specimen of this bird, shot in the Northern Circars, but have seen and shot it in the Carnatic, during the cold season, frequenting the tops of high trees. It may be considered as the young of *P. pagodarum*, but besides the difference of size, and various peculiarities of both plumage and structure, as I never saw it in company with it, and have reason to believe that the young birds of the latter early assume the black colour of the head, I think it certainly distinct. Again it may be considered as the young of the *P. Malabaricus*, to which it has certainly a strong resemblance; but as I never saw that species in the Carnatic, nor in the Northern Circars, I think that this supposition is also unlikely. If distinct, it may be named *P. cinereus*. Is this the *Gracula cinerea* from Bengal, mentioned in Lesson's *Traite?* Length of my specimen $7\frac{1}{2}$ inches; of wing 4; tail $2\frac{1}{2}$; tarsus barely 1; bill to front $\frac{6}{10}$ths; at gape about 1 inch. Bill and legs as in *Past. Malabaricus*, except that the bill is yellow only at the tip, instead of for more than half its length.

167—*P. roseus*, Temm.—*Turdus roseus*, Gmel., Lath.—*Tillyer*, H.—*Cholum bird* of Europeans in the Carnatic.

This well known species makes its appearance in the peninsula of India about the end of November, or beginning of December: associates in vast flocks, and commits great havoc on the grain-fields, especially in those of *Cholum* (or *Joaree*,) (*Andropogon Sorghum*), whence its common name. When the grain is cut, it occasionally feeds on insects, seeking them on the ground, also on various grass seeds, fruit and flower buds. It disappears in March, though straggling parties are met with even in April. The majority of birds in a flock are in imperfect plumage, the delicate salmon colour of the adult bird being replaced by a dirty fawn colour.

I extract from Mr. Elliot's notes the following interesting observations on this species. " Is very voracious and injurious to the crops, particularly to the white *Jowaree*, in the fields of which the farmer is obliged to station numerous watchers, who, with slings, and a long rope

or thong (which they crack dexterously, making a loud report), endeavour to drive the depredators away. The moment the sun appears above the horizon, the *Tillyers* are on the wing, and at the same instant shouts, cries and the cracking of the long whips, resound from every side. The *Tillyers*, however, are so active that if they are able to alight on the stalks for an instant, they can pick out several grains. About 9 or 10 o'clock A. M. the exertions of the watchmen cease, and the *Tillyers* do not renew their plundering till the evening. After sun-set they are seen in flocks of many thousands, retiring to the trees and jungles for the night. They prefer the half ripe *Jowarree*, whilst the farinaceous matter is still soft and milky." Length 9 to $9\frac{1}{2}$ inches; wing $5\frac{1}{4}$; tail 3; tarsus nearly 1 $\frac{3}{10}$ths; bill to front $\frac{7\frac{1}{2}}{10}$ths; at gape $1\frac{1}{10}$th. Irides deep brown; bill orange yellow at the base, then pinkish, and brown at the point; legs dusky reddish.

Genus GRACULA, L.—Eulabes, Cuv.

168.—*G. religiosa*, L.—*Koknee Myna*, H.—*Wattled* or *Jungle Myna.*

This species is only found in lofty jungle, as well in the east as on the west coast. It is by no means common, and seems very partially distributed, as you may pass through miles of forest without seeing a single specimen. It is generally found in small parties of five or six frequenting the tops of the loftiest trees, and feeding on fruit and berries of various kinds. I never found that insects had formed any portion of its food. The song of this bird is very rich, varied and pleasing, it has, however, several harsher notes frequently heard in the jungles it frequents. The *Jungle Myna* is now not often seen in cages in the South of India, but it is very highly prized, both for its powers of song and speech, which are said to surpass those of all other birds in distinctness. Irides deep hazel brown; bill and wattles orange yellow; legs bright yellow. Length 10 inches; wing 5 $\frac{6}{10}$ths; tail 2 $\frac{8}{10}$ths; tarsus $1\frac{2}{10}$ths; bill straight to front 1; at gape 1 $\frac{3}{10}$ths.

It has probably been from erroneous information that this species was named '*religiosa*' by Linnæus, as I am not aware of its being considered sacred by the Hindoos, whereas the *Pastor Tristis*, or *common Myna* is, as I learn from Mr. Elliot's notes, sacred to *Ram-deo*, on whose hand it sits.

FAMILY FRINGILLIDÆ, Finches.

SUB FAMILY COCCOTHRAUSTINÆ, Swains.—*Hard-bills.*

GENUS EUPLECTES, Swains.—PLOCEUS, Auct.

169.—*E. Philippensis.*—*Ploc. Philipensis,* Auct.—*Baya,* H.—*Weaver Bird.*

The weaver bird is found over all the peninsula, but much more abundantly in some situations than in others, being common in the more wooded districts, and though not rare, far from common in the Carnatic, and the bare table land, as you may often pass over large tracts of country without ever seeing it, while in particular spots you find a tolerably large colony of them. The *Baya* associates in numerous flocks, generally builds in company, and almost always in the close vicinity of water. Its long bottle-shaped nest is well known. It feeds on various grass seeds, and also grain, associating sometimes with the *Emberiza melanocephala,* and sometimes as Colonel Sykes observes, with the house sparrows. The flock keeps up a continual chirping. It breeds, I am told, towards the end of the monsoon, and the young ones are ready to fly about the ripening of the first crops of grain. Length about 6 inches; of wing $2\frac{8}{10}$ths; tail 2; tarsus $\frac{9}{10}$ths. Irides dark brown; bill black; legs yellowish.

170.—*E. Bengalensis.*—*Loxia Bengalensis,* Auct—*Cocc. chrysocephala,* Vieill.—*Le gros bec Orchef,* Vieill. Encyl. Meth. p. 1008.—*E. albirostris,* Sw.?—*Bahmunee Baya,* H.

I have not myself met with this species, but find it recorded in Mr. Elliot's notes, as found occasionally in the Southern Mahratta Country. That gentleman says that, "the male has the yellow crown only in the breeding season. At other times only eyebrow and ear spot are yellow. Their nests, though similar, are smaller than those of the common *Baya,* and have two chambers. Habits the same as those of the *Baya.* Length 6 inches."

Major Franklin, I see, has ranged this bird, as an *Emberiza,* but says its Indian name is *Baya,* and Mr. Elliot calls it a *Ploceus;* so, although I have not seen it, I range it unhesitatingly as an *Euplectes* of Swainson.

Genus AMADINA, Swains.

Sub Genus ESTRELDA, Swains.

171.—*E. amandava.*—*Fringilla amandava*, L.—*Lal* (the male), *Mooneah* (the female), H.

This pretty little bird is far from being common in the South of India. I have seen it in greatest abundance on the top of the Neilgherries, where it frequents meadows and bushy ground, but frequently also enters gardens, and is considered destructive to various seeds, buds, &c. I have seen it only once or twice in the Deccan, in the neighbourhood of well wooded towns. It is said to be common in some parts of Mysore. Mr. Elliot says, "It is common in Dharwar, particularly in the sugar-cane fields, along with *Spermestes Malacca.* Though I have never myself observed it in the Carnatic, I am informed it is met with in some districts, especially about Arcot, and that it builds its nest of well woven grass, attaching it to a stalk of *rawala.* It is caught in great quantities in certain parts, and kept in cages with the next and other species. It is said to fight with great courage (for which purpose it is kept by the natives), and that it will continue the combat till blood is drawn on one or both sides. Length 4¼ inches; wing 2; tail 1½; tarsus rather more than ½ an inch; bill to front $\frac{3}{10}$ths.

Sub Genus SPERMESTES, Swains.—Lonchura, Sykes.

The next four species most probably belong to Swainson's genus *Spermestes*, though they are probably aberrant species, leading to *Erythura*, by their slightly acuminated tail.

172.—*S. nisoria*, Temm. P. C. 500-2.—*Loxia punctularia*, Auct.?—*Sing baz* or *sheen baz*, H.—*Chesnut throated finch.*

I have hitherto only found this pretty species on the Neilgherries, frequenting long grass and bushes, and feeding on various seeds in small parties of 4 or 5. I am informed, however, that it is met occasionally in various parts of the country, as in Mysore, and some of the more wooded spots, near large towns in the table land. It is enumerated both in Mr. Elliot's and Colonel Syke's catalogues. The upper tail coverts have a strong yellow tinge, and a glistening waxy sort of lustre. Bill and legs, slate blue; irides dark brown. Length 4½; wing 2$\frac{2}{10}$ths; tail 1½; tarsus $\frac{6}{10}$ths; bill at front $\frac{4}{10}$ths.

173.—*S. leuconota.*—*F. leuconota*, Temm., P. C. 500—1.—*Lox. striata*, Lath. ?—*White rumped Finch.*

I have only hitherto observed this species in the Malabar coast, and the Wynaad, frequenting grain-fields, open spaces in the jungle, and occasionally seen on the road-side, and even in stable yards, feeding on various kinds of grain and seeds. It lives in small flocks of six, eight or more. Irides dark brown; bill and legs, slate blue. Length $4\frac{4}{10}$ths; wing $2\frac{1}{10}$th; tail $1\frac{6}{10}$ths; tarsus $\frac{5\frac{1}{2}}{10}$ths; bill to front $\frac{4}{10}$ths.

174.—*S. Malacca.*—*Loxia Malacca*, Auct. ?—*Nukl-nore*, H.—*Black-headed Finch.*

The *nukl-nore* so nearly approaches the description of the *Loxia Malacca* of authors, that I shall here consider it as the same. I have seen this bird in the Carnatic, frequenting long reeds and grass, by the side of rivers, in the table land in similar situations, though more rare, and most numerous in the wooded region of the west coast, frequenting grain-fields in large flocks along with the last species.

I shall here add a brief description. Male,—head, neck and breast of a rich black; body above of a chestnut brown; the upper tail coverts of a brighter tinge, and with a glistening lustre, as in *S. nisoria*, belly white with large central spot and vent black; bill bluish at base, yellowish at tip; legs plumbeous. Length $4\frac{3}{4}$; wing $2\frac{2}{10}$ths; tail $1\frac{4}{10}$ths; tarsus $\frac{6\frac{1}{2}}{10}$ths; bill at front $\frac{4\frac{1}{2}}{10}$ths. Irides dark brown. Female—or young ?—above of a pale cinnamon brown, darkest on the head; beneath rufous white, darkest on throat and neck.

175.—*S. cheet.*—*Lonchura cheet*, Sykes.—*Pidderee*, H.—*Small brown Finch.*

This plain coloured little *finch* is found all over the peninsula, living in families, and frequenting hedges, low trees in cultivated ground, and low bushes on the open plain, or by a river side. It frequently enters gardens, and feeds on various kinds of seeds. Colonel Sykes describes its nest as being formed of grass, in the shape of a hollow ball, and that he found in one nest ten white eggs, not much larger than peas. Irides deep brown; bill bluish; legs dirty reddish. Length about 5 inches; tail 2.

Sub Family FRINGILLINÆ.—*Ground Finches.*

Genus PYRGITA, Swains.

176.—*P. domestica.—Chooree,* H.—*Common House Sparrow.*

The *Sparrow* is found all over India, even its hottest parts. It is least common on the wooded west coast, and Quilon is said to be exempt from its society, as well as from that of the common squirrel (*Se-palmarum*), two of the greatest pests of most other stations.

177.—*P. flavicollis.—Fringilla flavicollis,* Frankl.—*Rujjee,* H—*vulgo Junglee chooree,* i. e. *Jungle Sparrow.—Yellow necked* or *Jungle Sparrow.*

The *yellow necked sparrow* is found all over the peninsula, wherever there are abundance of trees, but it cannot be said to be a common bird any where, even in the well wooded region of the west coast, where it is more plentiful than in any other part of the peninsula. It frequents thin jungle, groves of trees, avenues, &c.; lives in small flocks, and has almost exactly the same chirping note as the common sparrow. It feeds on various seeds, grain and flower buds. It is said to breed in holes of trees. Mr. Elliot says " also breeds on old pots, and on house tops." The egg is of a greenish white, much streaked and blotched with purple brown. I obtained one from the body of a female. Colonel Sykes has placed it as a *Ploceus,* but its habits, as well as its structure, and the similarity of its notes to those of the common sparrow, have led me to replace it among the sparrows. Length $5\frac{1}{2}$ inches; wing $3\frac{3}{10}$ths; tail 2; tarsus $\frac{7}{10}$ths; bill to front $\frac{4}{10}$ths; bill black; legs cinereous; irides brown.

178.—*P.? concolor.*—New species.?

I have but a single specimen of the bird I am about to describe, which was shot on the ground in an open plain, along with a lot of the *Indian Ortolan* (*Alauda Dukhunensis,* Sykes). It does not exactly agree with the characters of *Pyrgita,* having the bill more turgid, and with the commissure slightly sinuated. The third quill is shorter than the two first, and the inner toe is shorter than the outer one, its claws moreover are less curved. I cannot, however, range it under any other of Swainson's genera, so prefer retaining it here.

Descr.—Of an uniform light ashy brown colour, lightest below (almost white indeed at chin and vent), and darkest on the quills and

tail. Length 6 inches; wing $3\frac{8}{10}$ths; tail $2\frac{1}{4}$; tarsus rather more than $\frac{7}{10}$ths; bill at front $\frac{4}{10}$ths. Irides brown; bill brown above, yellowish below; legs flesh coloured yellow.

Genus EMBERIZA, Auct.—*Bunting.*

179.—*E. melanocephala*, Auct.—*Gundum*, H.—*Black-headed Bunting.*

I do not recollect having seen the *Gundum* in the Carnatic. It makes its appearance on the table land, about the end of November, or beginning of December; associates in numerous flocks, and is very destructive to grain-fields. Few of the birds are found in perfect plumage. Length $7\frac{1}{4}$ to 8 inches; wing $3\frac{8}{10}$ths; tail 3; tarsus $\frac{9}{10}$ths; bill to front $\frac{5}{10}$ths.

180.—*E. ortolana*, Auct.—Sykes' Cat.—*Ortolan* of Europe.

I have not hitherto met with the *Ortolan* of Europe.

181.—*E. cia ?—Putthur Chirta*, H.—*Bush or hedge Bunting.*

Though I have great doubts whether this bird is the *E. cia* of authors, yet as it approaches nearly the description of that bird, and moreover is only a winter visitant to the peninsula, I think it may turn out to be identical with it.

This *bunting* is found only in the more northern parts of the table land, during the cold weather, frequenting hedges and trees in the neighbourhood of cultivation, also bushy wilds. It feeds on various grains and seeds. Found sometimes single or in pairs, at times in numerous flocks. I shall add a brief description.

Plumage above cinereous, tinged with reddish on the back and rump; beneath lighter cinereous, strongly tinged with reddish fawn colour, on throat and breast, passing into reddish white, or pale fawn colour on the belly and vent; chin whitish. Wings and tail dark brown, broadly edged with reddish fawn; outer feathers of the tail white on their inner webs. Irides brown; bill reddish; feet yellow. Length $6\frac{1}{2}$ inches; wing $3\frac{1}{2}$; tail $2\frac{1}{2}$; tarsus $7\frac{1}{2}$ tenths; bill to front hardly $\frac{4}{10}$ ths.

182.—*E. cristata*, Vigors.—Sykes' Cat.—*Crested black Bunting.*

183.—*E. sub-cristata*, Sykes' Cat.—*Crested brown Bunting.*

I have not hitherto been fortunate enough to observe either of these species of *Bunting.*

Sub Family ALAUDINÆ.—*Larks.*

Genus ALAUDA, L.—*True Larks.*

There is great difficulty in making out the species of this genus from description (unless they are very minutely described both as to structure and colour), as they are all clothed in such similar plumage, and I do not feel confident that I am referring the species I have observed to their proper places, and therefore wish that my remarks may only be considered as an approximation to the truth, till the specimens have been examined and compared at home.

184.—*A. Gulgula*, Frankl.—Sykes' Cat.?

The only specimens I possess, of what I consider to be this bird, were shot on the Neilgherries, where they are very abundant. Colonel Sykes says this is the *chundoola* of India, but the bird which is so frequently caged and kept by natives under that name, answers more to the description of his '*A. Deva*'. One of my specimens differs slightly from the others in having the tail feathers more acuminated, a rather longer beak, and longer wing. This specimen agrees with the measurements of Colonel Sykes, viz. total length 6 $\frac{7}{10}$ inches; tail 2 $\frac{3}{10}$ths; wing of this 3 $\frac{8}{10}$ths. Of another specimen the tail is only 2 inches, and the wing 3$\frac{6}{10}$ths. In both the hind toe alone is $\frac{4}{10}$ths; hind claw $\frac{7}{10}$ths; nearly straight. Whether these differences are accidental or not, I shall not here attempt to determine. Irides brown. Chief food grasshoppers, tipulæ, and other insects.

185.—*A chendoola*, Frankl.—*A. Gulgula*, Sykes?—*Aggun*, H.

I do not possess a specimen of this bird, but have seen and cursorily examined some living birds lately. The *Aggun* of India is very common in the Carnatic, and also in the Northern Circars, I believe, but is rarely, if at all, met with on the great table land of Southern India. Having neglected to obtain specimens whilst in the Carnatic, I cannot give my minute details regarding it. Its shade of plumage is less rufous and more grey than that of the last, or of the next species: the

central marks of the feathers also are not so dark, the shade of the plumage beneath is greyish or earthy rather than rufous white, and the chin is pure white. Its bill too is much thicker and stronger than that of the last. The *Aggun* is frequently caught when young, and caged for its song, which is said to be very sweet; it also imitates the notes of other birds, but not so well as the next species. As I have never seen the first species (No. 183), except on the Neilgherries, I think that this may perhaps be the *A. Gulgula* of Sykes' Cat., but again the fact of the *Aggun* not being observed by me on the table land, and being considered as unknown here by the natives, renders this improbable.

186.—*A. deva,* Sykes.—*A. Gulgala,* Frankl.—*Cherundool* or *Chundool,* H.

This well known species appears to answer pretty exactly to the description by Sykes of his '*A. Deva*'. I suspect it may turn out to be the *A. Gulgula* of Franklin, as it appears to be more generally spread over India than any of the others.

The *Cherundool* is found all over the peninsula, but is more common in the table land than below the ghauts. It differs from the two former species in its smaller size, and especially in the form of its crest; for whilst in the two last, the crest is composed of nearly all the feathers of the head, being slightly elongated, and all capable of erection; in this bird the crest is merely confined to a few of the feathers of the forehead, the centre feathers of which especially, are much elongated, and partially acuminated, and when raised form a very elegant pointed frontal crest, which is raised at will nearly upright, the feathers of the top of the head and occiput remaining perfectly smooth. The shades of its plumage are almost exactly similar to those of the first species, its bill, however, is much stronger in proportion. The *Cherundool* is very frequently caged in all parts of the country, and the bird is kept in darkness by several layers of cloth being wrapped round the cage, the custom being to wrap an additional covering round the cage every year. In this state it sings very sweetly, and learns to imitate most exactly the notes of various other birds, and animals even, such as the yelping of a dog, the mewing of a cat, &c. &c. It feeds on various insects, chiefly grasshoppers, and in default of this food on various grains and seeds. Irides brown. Length 6 inches; of wing 2 $\frac{4}{10}$ths; tail $2\frac{2}{10}$ths; tarsus about 1 inch; hind toe alone $\frac{3}{10}$hs; claw $\frac{4}{10}$ to $\frac{5}{10}$ths.

187.—*A. Dukhunensis,* Sykes.—*Emberiza Baghaira,* Frankl. Cat. ? *Baag-geyra Lark.*—*Latti ? Baghaira* or *Baghōda* of some *Shikarees,* H.—*Ortolan* of Europeans.—*Social Lark.*

This bird as described by Sykes, is most probably the *Emb. Baghaira* of Franklin's catalogue, but as the only description of the *Baag-geyra Lark* I have access to, is very brief, I cannot be certain. This bird appears on the table land of India in October. It associates in vast flocks, frequenting the bare grass downs, and is fond of damp spots, as at the edge of tanks, &c. It also frequents grain-fields, and almost always retires to them for shelter during the heat of the day, from whence it does not in general issue again till next morning. They are so numerous occasionally, that 4, 5 or 6 dozens are sometimes killed at a shot, and numbers are often netted in some parts of the country, as I learn from Mr. Elliot's notes. When in good condition it is highly esteemed for the table. The *social lark* does not breed in this part of India, and quits it for the north in March. Irides deep brown. Length $6\frac{1}{4}$ inches; of wing 4; tail $2\frac{2}{10}$ths; tarsus $\frac{9}{10}$ths; hind toe alone hardly $3\frac{3}{10}$ths; claw about the same.

Genus MYRAFRA, Horsf.—*Thick billed Lark.*

188.—*M. phœnicura,* Frankl.—*Reytul,* H. of some; *Ageea,* H. of others.—*Red bellied lark.*

The *red bellied lark,* is found over all the peninsula, but is much more common in the Deccan, than below the ghauts. It frequents the open plains, preferring the barest spots, ploughed land, stubble fields and beds of nullahs. It sometimes, though rarely, perches on bushes. Its habits are much those of the *Larks.* It feeds chiefly on seeds of various kinds, also on insects occasionally. Its abrupt jerking flight has been already noticed by Colonel Sykes. It frequently ascends suddenly in the air by a few interrupted strokes of its wings, and uttering at the time a pleasant loud whistle-like note, sounding something like *Too whee*; it then descends with a sudden fall, changing its note to a low lark-like warbling; when close to the ground it again repeats this, and so on for several times. Irides brown; bill horny above, flesh coloured below; legs flesh coloured. Length 6 inches; wing $4\frac{2}{10}$ths; tail $2\frac{4}{10}$ths; tarsus $\frac{9}{10}$ths; hind toe alone $\frac{3}{10}$ths; claw the same, nearly straight; bill to front $\frac{5}{10}$ths; gape $\frac{7}{10}$ths.

189.—*M. Javanica?*—*Ageea*, H. of some, *Junglee Ageea* of others.—*Red winged Lark.*

As I have no description of *M. Javanica*, I merely refer my bird to that species at a venture, but think, as it is mentioned in Franklin's catalogue, it is probably the same. I have only observed this species among stony and bushy hills, and low jangly plains in the northern part of the Deccan. It is never found on the bare plains like the last. It is found single or in pairs, is a wary bird when roused, flying a short distance, and seating itself behind a bush on the ground, or perching on the back part of the bush, which it does much more frequently than the last. Feeds on various seeds. I add a brief description. Above of a reddish brown or fawn colour, of various intensity; the feathers centred darker, and edged with lighter. Feather of head elongated, bright rufous fawn; centred with brown; quill feathers cinnamon rufous, tipped with dusky, tail brown, centre and external feathers edged with rufous. Beneath white, breast spotted with brown. Irides dark brown. Length $5\frac{1}{2}$ inches; of wing $3\frac{2}{10}$ths; tail 2; tarsus $\frac{8\frac{1}{2}}{10}$ths; hind claw alone $\frac{3}{10}$ths, longer than its toe; bill at front $\frac{4}{10}$ths; to gape $\frac{5}{10}$ths.

Genus AGRODOMA, Swains.—Anthus, Auct.—*Tit Lark.*

190.—*A. agilis.*—*Anthus agilis*, Sykes.—*Roogail*, H.—*Common Tit lark of India.*

Although by no means certain that this is the '*A. agilis*' of Sykes, yet as it is the most common species in India, I have ventured to consider it as such, adding a brief description for the sake of comparison. The *Roogail* is tolerably common over all India, frequenting the open grass downs, stony plains, and also not unfrequently the beds of rivers, tanks and other moist places. It runs swiftly along the ground, and when raised takes but a short flight. It feeds chiefly on various insects. It probably represents the *A. pratensis* of Europe, to which it appears to have a very close resemblance, but Colonel Sykes has pronounced them distinct.

Descr.—Above light olive brown, the feathers centred with a darker shade; beneath of a reddish or earthy white; the breast striated with brown lines; and a narrow line of same colour down each side of the throat.

My specimens vary in size from $6\frac{1}{4}$ to $6\frac{3}{4}$ inches; wing $3\frac{5}{10}$ths; tail

$2\frac{1}{2}$; tarsus $1\frac{1}{10}$th; hind toe alone $\frac{4}{10}$ths; do. claw (slightly curved), nearly $\frac{5}{10}$ths; bill to front $\frac{4\frac{1}{2}}{10}$ths; at gape $\frac{7}{10}$ths. Irides brown; legs flesh coloured. I have one specimen not differing in colour, the wing of which is only $3\frac{2}{10}$ths; hind claw perfectly straight, and the hind toe only about $\frac{3}{10}$ths of an inch. Is this a mere variety?

191.—*A. rufescens.*—*Anth. rufescens,* Auct.?—*Hill Titlark.*

This bird which approaches very closely the descriptions of the *A. rufescens* of Europe, I have hitherto found only on the grassy hills of the Neilgherries, where it is tolerably common. It runs briskly along the ground, and flies only a short distance. On one or two occasions, I observed it perch on a tree. I found its food to consist of various insects.

Descr.—Above of an olive yellow; the feathers centred with dark brown; beneath and superciliary mark of a light rufous tinge, darkest on the breast, which as well as the sides and belly are streaked with brown. Length $6\frac{4}{10}$th inches; wing $3\frac{2}{10}$ths; tail $2\frac{1}{2}$; tarsus nearly 1; hind toe alone nearly $\frac{5}{10}$ths; do. claw $\frac{4}{10}$ths, fully curved; bill shorter and stronger than in the other species. Length to front $\frac{4}{10}$ths; at gape $\frac{6}{10}$ths.

192—*A. rufula.*—*Anth. rufulus,* Vieill. Ency. Meth. p. 326.?—*Chilloo,* H.—*Pale* or *rufous Titlark.*

As the description of the *Anthus rufulus* of French authors, appears somewhat to coincide with my specimens, I have for the present considered them as the same. The *Chilloo* of *Shikarees* is tolerably common on the bare stony plains of the table land; I am not aware if it is also an inhabitant of the Carnatic. It has similar habits to others of the genus.

Descr.—Above of a pale rufous grey tint; the feathers centred with dusky, most distinctly on the head, hardly at all on the back and rump, beneath and superciliary stripe, pale fawn colour, whitening towards the vent and on the chin; breast very faintly marked with pale brown streaks; a brown stripe runs from the gape below the ear, and another from the lower edge of the under mandible, down the throat on either side. The wing coverts are brown, very broadly edged with fawn colour. The two centre feathers of the tail are also brown, edged with fawn, the external nearly all of that colour, the next to it tipped and edged only, and the remainder all deep brown. Irides brown; bill

horny above, pale fleshy below; legs flesh coloured. Length nearly 7 inches; wing $3\frac{6}{10}$ths; tail about 3; tarsus 1; hind toe alone $\frac{3}{10}$ths; hind claw rather more than $\frac{3}{10}$ths; more curved than in *A. agilis*; bill to front $\frac{5}{10}$ths; at gape $\frac{7\frac{1}{2}}{10}$ths.

193.—*A. similis.*—New species?—*Large Titlark.*

Descr.—The description of the last species will apply exactly to this very similar bird, with this exception, that the centre markings of the feathers are still more indistinct in this one; and that the fawn colour of the plumage beneath, extends over all the abdomen, vent, and under tail coverts. It differs, however, remarkably in size and in some points of structure. Length $8\frac{1}{4}$ inches; wing $3\frac{8}{10}$ths; tail $3\frac{6}{10}$ths; tarsus $1\frac{1}{10}$th; hind toe alone $\frac{4}{10}$ths; hind claw $\frac{4}{10}$ths; more curved than in *A. rufula.* Bill at front $\frac{6}{10}$ths; at gape $\frac{9}{10}$th. Besides the structural differences shewn in these measurements, this differs from the last in the bill being slightly curved, both at the culmen and commissure. Irides brown; legs flesh coloured. I only once observed this large *Titlark* in an open stony plain, there were a pair of them together, and I noticed that their flight was performed somewhat differently to that of the *Titlarks* in general, there being a more frequent flapping of the wings. I found fragments of insects in the specimen I then procured.

Genus MEGALURUS, Horsf.

193.—bis.—*M. ruficeps,* Sykes.

I have not hitherto observed this species.

Sub Family PYRRHULINÆ, Swains.

Gen. PYRRHULAUDA.—*Finchlark.*

194.—*P. cruciger.*—*Fringilla cruciger,* Temm. P. C. 260-1.—*Alauda Gingica,* and *Duree Finch,* Lath.—*Emberiza Gingica,* Gmel.—*Decora,* H. *vulgo.*—*Dubhuk Choree* i. e. *Squat Sparrow.*—*Black bellied Finchlark,* or *Squat Finch-Ortolan* of some Europeans.

This curious little bird is extremely common in all parts of India, frequenting the open plains and cultivated grounds, and common on roads or any other bare spots of ground. Its habits are quite those of a *lark*. It is still more remarkable than the *Mirafra phœnicura*, for the sudden ascents and descents of its flight, mounting up some height by a few flappings of its wings, and then descending almost perpendicularly till close to the ground, when it again rises as before, and repeats this several times. In general, it takes but a short flight, and on alighting, squats so close that, as Colonel Sykes remarks " it almost allows itself to be ridden over ere it rises." It occasionally may be seen seated on a house top, but I never saw it perch except on one occasion, when I observed some 12 or 15 of them perched on a low tree close to a house in cantonment. This was during the height of the hot weather. I was fortunate enough to obtain the nest and eggs of this bird very lately (in February). The nest is composed of woven thread, mingled with some fibres of grass, and one or two small fragments of cloth. The sides are hardly raised at all, it was placed in a slight hollow on the open plain near a river, and contained two eggs of a slight greenish grey tint, spotted with brown, chiefly at the larger end. Length $4\frac{3}{4}$ inches; wing 3; tail $1\frac{6}{10}$ths; tarsus $\frac{6}{10}$ths; hind toe and claw $\frac{4}{10}$ths; bill to front $\frac{3}{10}$ths; at gape $\frac{4}{10}$ths. Irides reddish brown; bill flesh coloured, with a tinge of horny; legs flesh coloured.

Genus HÆMORHOUS, Swains.

195.—*H.* ? *roseus*—*Coccothraustes rosea*, Vieill. Encly. Meth. p. 1010. *Ois. Chant*, pl. 65.—*Fringilla rodopepla*, Vigors? Gould's Cent. Him. Birds.—*Loxia Madagascariensis*, and *Lox. Totta* of English authors. *Tootee*, H.—*Rose Finch*.

I am not quite certain if the *Rose Finch* of India belongs to Swainson's genus *Hæmorhous* or not, but as far as I can make out, it appears to do so. It appears to be the species named as above by Vieillot, and if so, the name of *F. rodopepla* must sink to a synonym. The *Tootee* of India arrives in this country from the north, about November, and remains till March. I first saw it in thick jungle at the bottom of the Conoor pass, busily engaged in eating the seeds of the lofty bamboos there. I have seen it also several times in large groves of trees in the northern part of the table land. It associates in flocks of various numbers,

and devours various grains, especially *Jowaree* (*Andropogon Sorghum*), and also rice, and in default of these, various other grains, seeds and even flower buds, and young leaves of trees. It is occasionally caught and domesticated on account of its song, which is said to be very sweet. Vieillot says "it is often brought from India alive, and bears the climate well." It is said not to be bred in any part of India. Irides brown; bill and legs pale brown. Length 6½ inches; wing $3\frac{2}{10}$ths; tail 2¼; tarsus not quite $\frac{8}{10}$ths.

Family BUCERIDÆ.—*Horn bills.*

Genus BUCEROS.—*Horn bill Toucan* of residents in India.

196.—*B. Cavatus*, Shaw.—Gould's Cent. Him. Birds.—*Garuda* of the natives of the forests.—*Malah-moraykey*, Mal.—*Largest Horn bill.*

I have not myself been fortunate enough to procure a specimen of this *large Hornbill*, but have seen it on several occasions in the thick jungles of Malabar, and in the Coonoor pass of the Neilgherries. I take the following account of it from Mr. Elliot's notes, who met it in the Soonda jungles.

Descr.—"Back, wings, belly, chin and bar on the tail black; neck, tail, thigh, wing spot, tips of scapulars and remiges white; bill vermilion above, passing into yellow, the lower mandible whitish, at the base black. The male bird has the space between the prominence and the true beak in front also blackish, from which a black stripe runs down the crest of the beak, towards the point, and the posterior termination of the prominence is also dusky in the male, red in the female." Length—male upwards of 4 feet; female 4 feet; weight of the latter 6½ lbs; bill from point to gape in a straight line 10 inches; from point to end of protuberance 13¼ inches; protuberance 7½ inches long; 3¼ broad.

"At the root of the tail of this bird on upper side, immediately above the vent, is a small sac, in which is a bundle or pencil of short bristles, forming a brush, from which exudes a yellow oily secretion, with which the bird appears to dress the white wing spot; when first shot the yellow colour comes off the bill in considerable quantities, and the

only parts of the body besides, that are stained with this colour, are, the wing spot, rump, and the small crest on the back of the head; this latter but slightly. This yellow substance continued to exude from the brush, long after the specimen was prepared and dry. The *Garuda* is sacred to *Vishnoo*, among the inhabitants of the forests, as the *Brahminy Kite* is in the open country."

This *Hornbill* is very shy and difficult to approach. The noise of its wings when flying is very loud, and can be heard a long way off. The Malyalum name signifies, I am informed, "*That makes the jungles resound.*"

197.—*B. Malabaricus*, Gmel., Lath.—*B. Albirostris*, Shaw, Wagler. —*Dhanesa*, Sanscrit.—*Dhanchooree*, H.—*Ibba Hakee*, Can.

This *hornbill* is to be met with wherever there is lofty forest jungle, and of course is most plentiful on the Malabar coast, but even here it is far from being a common bird. It lives in parties of four, five, six or more, and lives on fruit and berries of different kinds. Length of one specimen from forehead to tip of tail 31 inches; of wing $13\frac{1}{4}$; tail 14; tarsus $2\frac{6}{10}$ths; of bill straight to gape $6\frac{1}{2}$ inches; of protuberance alone $6\frac{1}{2}$; from tip of bill straight to posterior angle of the protuberance $8\frac{1}{2}$ inches.

198.—*B. Gingianus*, Lath.—*B. Oxyurus*, Wagl.—*Chakrotra*, H.—*Common Grey Hornbill.*

This bird is spread all over the peninsula, frequenting not only jungles, but also not unfrequently large groves of trees and avenues (in the more wooded parts of the open country). Like the last, it is generally seen in small parties or sometimes single. I have generally found fruit in the stomach of this bird, but on one occasion I found some large insects, chiefly mantides. Length from forehead to tip of tail 22 inches; of wing 8; tail 10; tarsus 2; bill straight to gape 4 inches.

199—*B. Gingalensis*, Shaw.—*B. Pyrrhopygus*, Wagl.—*Kooldal Hakee*, Can.—*Jungle Grey Hornbill.*

I have hitherto only seen this species but once or twice, frequenting lofty jungles in the Malabar coast. I found its food to consist of various kinds of fruits and berries. Bill whitish yellow; total length 22 inches; wing $8\frac{1}{4}$; tail $8\frac{1}{2}$; tarsus $1\frac{8}{10}$ths; bill straight to gape $4\frac{1}{4}$; breadth at base $1\frac{2}{10}$ths.

(*To be continued.*)

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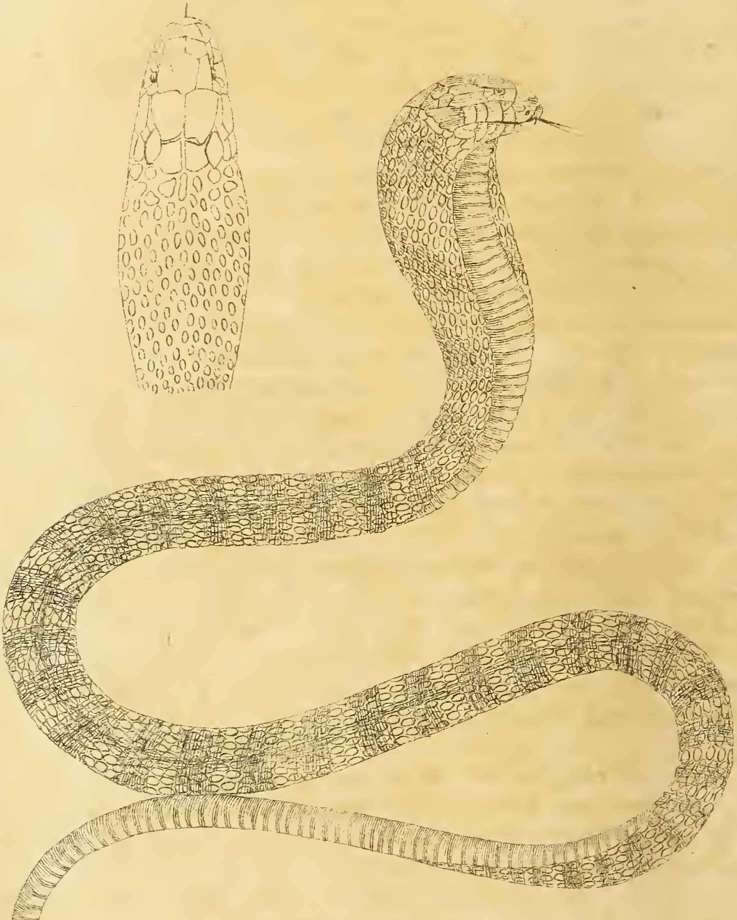

Naia Vittata

II.—*Description of a new species of Naga, or Cobra de Capello.*—By WALTER ELLIOT, ESQ.

In the beginning of January last, a fisherman from one of the Coopums near St. Thome, brought me a box, containing a snake which he said he had picked up, floating in the sea, a few days before, when fishing in his catamaram. The lid was fastened and on opening it, he was astonished to find a *nāg* snake. Perceiving it to be of unusual size, and to differ from the common kind in the distribution of the colours, I immediately bought it, and sent for a snake catcher, who took it out, and displayed it more fully to view. It appeared dull and languid, but was roused and expanded its hood. Its great length, the peculiar shape of the hood, or dilatation of the neck, and the circumstance of its being marked with numerous dark transverse bands, three of which extended across the enlarged portion of the neck, seemed to indicate it, as a species altogether different from the common sort.

It may be described in detail, as a species of cobra or naga, with the head scarcely broader than the neck, the crown depressed, and sloping to the muzzle, which is somewhat obtuse, and covered with 14 more conspicuous plates or laminæ. The first, forming the point of the nose, is semicircular, the next two between the nostrils are sub-triangular, the sides rounded; another pair succeeding these are broader and squarer. Between the eyes are three plates, larger than any of the preceding, sub-conical, the base of the centre one being placed anteriorly, those of the lateral ones posteriorly. The pair behind these are the largest of all, of an oblong shape, broader in front, and sloping from the middle of the exterior edge, to the posterior end: these are succeeded by a smaller broad oval pair, at the lateral junction of which with the preceding pair, are two others, distant and divided, which are about the same size as the last, sub-triangular and rounded. The gape is large; the teeth in the lower jaw sharp, reflex and moderately strong, those in the upper are smaller, and forming two rows along the palate; the larger fangs had been removed. The eyes are small, situated under and about the centre of the inter-ocular laminæ. When the animal is at rest, the neck is slightly smaller than the head, but when roused, it is capable of dilatation, like that of the cobra de capello: but the enlargement, instead of being broader near the head and sloping as it recedes, as in that species, is broadest in the middle and slopes gradually to the head and to the trunk. It is quite destitute of the spectacle

mark, but is crossed by three of the transverse dark bands, characteristic of it as a distinct species.

The body is round, covered with oblong, oval scales, distinct, close, but not imbricate. The length 10 feet 1½ inch, of which the tail forms about two feet. The abdominal plates or scutæ are long and 236 in number, the sub-caudal scutellæ are about 84 (?) pairs. The colour above was a pale yellowish brown, with a strong bluish grey tinge on the upper parts of the body, marked with numerous broad dark bands, in number 64. The animal appeared to be languid and weak, as if about to change its skin; it did not eat, and a frog which had been put up with it in the box, hopped away unmolested. For this reason, the colours when in health may differ from those here stated. The accompanying sketch was made the first day I procured the animal, and I had no opportunity of comparing it carefully in detail; for, a few days afterwards, it died, during my absence at Guindy, and had begun to decompose before it was discovered to be dead. An indifferent preparation has been made of its skin.

The group of Naias, or Nagas, forms a subdivision of the genus *Vipera* of Daudin (who separated the poisonous serpents with insulated fangs from the Linneæn genus *Coluber*), in the Regné Animal of Cuvier, distinguished as having " the head furnished with plates and the anterior ribs susceptible of being raised up, and drawn forwards, so as to dilate that part of the trunk into a disc, more or less broad." But a German Naturalist, Fitzinger, has formed them into a separate genus under the name of Cobra.

The most celebrated species that have been described, are the *Coluber Naia* of Linné, or *Naià Tripudians* of Merrem, common both to India and South America, and the *Col. Haje* of Egypt, also described by Linné and Geoffroy. Both of these differ entirely from the present species. Of the Indian cobra, Russell* notices eleven varieties, varying only in circumstances of colour and in the presence or absence of the spectacle mark on the neck.

In Gmelin's edition of the Systema Naturæ, four varieties of the *Coluber Naia* are noticed on the authority of Laurentini,† a German writer of the last century, who seems to have borrowed them from Seba.

These are—1.	*Naia Fasciata*,	Seba, vol. 11,	tab. 89.	f. 3.
2.	*N. Seamensis*,	ib.		f. 1. 2.
3.	*N. Maculata*,	ib.	tab. 90.	f. 2.
4.	*N. Brasiliensis*,	ib.	tab. 89.	f. 4.

* Indian serpents, p. 7. pl. 5, 6. Part i, and pl. 1. Part ii.

† Specimen Medicum exhibens Synopsis Reptilium emendatum, Auctore J. N. Laurentini; Vienna 1768.

the last of which is adopted as a new species, under the name of *N. Rufa*.

On referring to Seba's work in the Society's Library, the following notices of the *Naga* group are found in vol. ii. at plates 84, 89, 90, 94, 97. All of these have the spectacle mark on the dilatation of the neck, except No. 1, of plate 90, and No. 2 of pl. 97, which are called females, a supposition that has since been proved by Dr. Hunter to be erroneous, and that they are merely varieties of the *Col. Naia.* Two others with the spectacle mark No. 1 in pl. 85, and No. 4 in pl. 97, are said to want the faculty of distending the neck, or to possess it in a very slight degree.

Nos. 3 and 4 of pl. 89, resemble the present specimen in the circumstance of having the body marked by transverse bands, the former throughout its whole length (whence Laurentini's specific name of *fasciata*), and the latter for about ⅓rd of its length. But both have the spectacle mark on the neck distinctly represented, the latter of a more than usual complicated pattern. Seba's description of No. 3, is "Indian serpent with a spectacle mark, elegantly ringed."

"Its whole body, of a pale cinereous yellow, is encircled, from the head to the very end of the tail, with reddish brown rings, some of which are narrow, others broader. The order which the Creator has observed in disposing these rings is such, that three of the narrow rings are interposed between every two of the broad ones, a phenomenon certainly most worthy of remark."*

But no such arrangement is observable in the present species, and this, together with the absence of the spectacle mark, and more especially its great size, which could not have failed to have been noticed, seems to establish it a new species: in which event it might with propriety be named *Naia Vittata*, the term *fasciata* having already been appropriated to another, though an unascertained species.

* Num. 3. *Serpens, Indicus, cum Conspicillo, lepidé circulatus.*

Totum hujus corpus, ex cinereo dilutè flavum, tenuibus, partim & latiusculis, annulis, fusco-rubris, à capite ad caudam usque ultimam ambitur. Ordo, quem summus rerum Conditor in digerendis hisce annulis observavit, talis est, ut bini annuli, latiores, tres semper alios tenuiores intercipiant, phoenomeno certè animadversione dignissimo. Seba Thes. ii. p. 95.

III.—*A cursory Notice of the Gold Tract in the Kupputgode range—Manganese Mines near Wodoorti—and Flint excavations in the Southern Mahratta Country—the Corundum Pits of the western part of Mysore, and the Diamond Mines of Kurnool.—By Lieut.* T. J. Newbold, 23*d Light Infantry.*

Gold tract in the Kupputgode range.—Passing recently through the Southern Mahratta Country, I was informed at D rwar by Mr. Pelly, Assistant Collector, and by Trimulrow, a brahmin youth, whose acquirements, and thirst after knowledge, do infinite credit to the tuition of the talented president of the Bombay Branch of the Royal Asiatic Society—the Rev. Dr. Wilson—that gold had been lately discovered in the Kupputgode range, near the eastern frontier. I determined on visiting the spot, more especially as my intelligent friend Trimulrow, who has the merit of having first brought to the notice of Government the existence of gold in the particular locality of Doni, had not been able to witness personally the actual extraction of the gold from the sands of the rivulet, whence the specimens of the metal were brought him. Doni, I found to be a small village, about two or three miles south of the fort of Dummul, situated on the right bank of the rivulet, in whose sands the gold is found, immediately opposite. Although the *jalgars* (gold washers), were not at work, in consequence of the rivulets not having been lately flooded, I caused some of the natives on the spot to wash two or three baskets of the sand in my presence; and, after about five minutes labour, succeeded in obtaining five or six particles of gold dust. The process of washing has been often described, and does not differ much from that I have seen practised by the Chinese gold washers at the foot of mount Ophir, exchanging the conical vessel for a hollowed board: after the lighter particles of the sand are washed off, the gold dust remains mingled with a heavy black sand (No. 1), most of the particles of which are strongly affected by the magnet, and which does not differ from the granular magnetic iron ore of mineralogists: others are feebly magnetic; these, from their behaviour with fluxes before the blow-pipe, and their gunpowder-like appearance, I take to be menachanite (No. 2), probably derived from the decomposition of the dykes of basaltic trap, or the greenstone and hornblende rocks in the vicinity.

Along with the menachanite, and among the sand in which the gold was found, occur comminuted fragments of fibrous malachite; one (No. 3) a little larger than the rest, contained an irregularly shaped fragment of native copper; which, from its dark rough surface, I thought at first was hematite, but, in endeavouring to break it with a smart blow

of the hammer, I completely flattened it. A few small scattered grains of a greyish white metal occur, but are very rare: one of these has a slightly yellowish tinge, resembling the argentiferous gold, or rather auriferous silver, of Norway. The largest of these metallic substances (No. 4), a flattened water-worn button about half the size of a pea, having a purplish black enduit, on being submitted to re-agents, proved to be almost entirely composed of silver. I should have been inclined to suppose this fragment, from the scarcity of this metal in the rocks of India, to have been adventitious; had not I discovered a grey silver ore (No. 5), in a fragment of quartz shortly afterwards. It is by no means improbable that some of the smaller, flattish, grey, metallic looking grains may prove to be platinum, a metal which is often associated with gold.

The pebbles and sand, composing the bed of the rivulet, are derived from the Kupputgode hills, which form the sides of the valley through which the stream runs, and among which it has its rise, and are mingled with both fragments of kunkar and hematitic iron ore. The sand is composed chiefly of particles of quartz, variously coloured, comminuted garnet, and the metallic sands first mentioned. The surrounding formation is gneiss, with its associated schist of mica, hornblende, and greenstone, chloritic and clay slates; passing, in their upper portions, into silicious and ferrugenous schist, with beds of a lateritic rock. Near the base, between Guddak and Dummul, I found thin veins of a white, sub-crystalline marble in the greenstone slate. The whole of these rocks are penetrated by, and appear to owe their elevation to, large dykes of basaltic trap. Granite, too, is seen at no great distance in the plain to the south of the chain.

In tracing the gold dust to its matrix it will be useful to recollect, that where these plutonic rocks come in contact with the primary schists, a greater tendency to metallic and silicious developement is almost invariably observed, and it is in veins of quartz, ferrugenous quartz, and their alluvium, that we find gold to exist in the greatest abundance, from the Himálayas to Cape Comorin, in the Malayan peninsula, Borneo, Sumatra, Assam, the Birman empire, Hungary, and both Americas. On the peninsula of India, I have only heard of one exception to this rule, which is said to occur in the Madura district; where, according to Sir Whitelaw Ainslie (Mat. Med. vol. i. p. 514), gold was discovered by the late Mr. Mainwaring, mineralized by means of zinc, constituting a blende which, he thought, resembled somewhat the Schemnitz blende of Hungary. The gold washings, and mines of Mysore, near the Baterine hills, discovered by Captain Warren, those

around the base of the Neilgherri and Koondah mountains, in Wynaad and other districts of Malabar, all exist in primary formations, and associated with silica and iron, either in an integral state, or in the form of alluvial beds, clay, or sands. The richest gold mines of the eastern islands, as I have before stated, are found in similar geognostic situations, along the edges of the great volcanic belt that passes through the Indian Archipelago—a fact deserving of notice.

I was informed by the natives of Doni, that gold is found in greater abundance in the bed of the rivulet of Sottoor, a few miles from Doni, in the same range of hills, and I discovered it previous to my visit to Doni, in the sands of the Hurti rivulet, in the same range a few miles to the south of Guddak. The sands of both these rivulets are washed for the gold by the *jalgars.* It exists likewise, I was told by an old Hindu inhabitant of Savanur, in the Kor taluk of the Darwar collectorate, near Chick Mulgoond. In 1837, while passing through the western part of Mysore, I found a few grains of it, in the bed of a rivulet, near Gram, at the base of the Belladaira hill. These auriferous rivulets should be traced to their sources, which cannot be far distant, the sand carefully examined at every 40 or 50 yards, and the spot, where the particles of gold no longer appear, most diligently explored, the subjacent rock laid bare, and, if necessary, an excavation made into it.

I hardly need remark that the natives are perfectly acquainted with the art of purifying the gold dust by amalgamation, and that of refining it by means of repeated exposure to heat *below fusion*, with a mixture of muriate of soda and cow-dung ashes, the last of which is sometimes replaced by the powder of an *old* brick, mixed with a little borax. In simply melting gold, borax is added to assist its fusion. In the native process of amalgamation, a considerable loss is sustained from ignorance of the method for condensing and collecting the mercury, which is suffered to escape by volatilization. The existence of gold and manganese, in the Kupputgode hills, appears to have escaped the notice of that excellent observer Christie, and also of Marshall, and Colonel Sykes, the statistical reporter of this part of the Deccan.

Manganese Mines near Wodoorti, Kupputgode range.—At the time of my visiting the Kupputgode range, I had not seen Dr. Wilson's remarks on the minerals sent to the Museum at Bombay, by Trimulrow; from whose oral account, and from what he had heard among the hills, I was led to imagine the possible existence of coal among them; and, indeed, on my arrival, most of the natives concurred in assuring me that, there was a black stone to be found near Wodoorti,

called charcoal stone (*kolsah ka putther*), which Hyder and Tippoo had made especial search for. Led by this hope, though the nature of the formation over which I had already passed excited strong suspicions against the truth of the report, I crossed the hills by a steep and rugged path to Wodoorti, a village in a jungly valley, on the opposite side. About two or three miles hence, in a sort of defile that intersects the course of the chain on the north of the valley, at nearly right angles, I was conducted to a few half choked up excavations, at the bases of some large detached masses of a dark coloured rock, externally ferruginous and rugged; internally of a bluish black hue, tough and powdery under the hammer; and some parts, when struck, emitting a sulphurous odour. It contains numerous veins and nests of a shining foliated mineral of an iron grey colour (No. 5). Some of the cavities contained a white felspathic powder, others were coated with small stalactitic and botryoidal incrustations of the black mineral. Before the blow-pipe, per se, it fuses partially at the edges, with slight gaseous extrication, leaving a shining bluish black slag. In the yellow or oxidizing flame, it gives out a slight sulphurous odour, and the slag is affected by the magnet. With borax, on charcoal, it fuses with slight ebullition into an amethystine glass; and, with carbonate of soda on platina foil, into a light bluish green glass. When powdered, and treated with muriatic acid, the extrication of the peculiar fumes of chlorine sufficiently attest the presence of manganese. I was unable to detect the existence of plumbago by exposure to a deflagrating heat with nitrate of potash. Hence the mineral would appear to be the black oxide of manganese in combination with iron, and probably a little sulphur and alumina.

Sir Whitelaw Ainslie (Mat. Med. vol. i. p. 538), states that this metal,—so useful in the arts in Europe, in the composition of the finest kinds of crystal and flint glass, and common bottle glass; imparting a beautiful amethystine or red hue to glass, in yielding the rich brown tint used for painting porcelain, in bleaching, and in the preparation of chlorine gas,—is not common in India. He mentions that Captain Arthur found it in Mysore. Since his time however, it has been discovered by Colonel Cullen and Dr. Benza on the Neilgherries, by Major Burney in Ava,—and occurs associated with iron on the Himálayas. I have found it, also, in combination with oxide of iron, in veins in the laterite composing the cliffs at Bedar, in the Nizam's territories, near the line of contact with the trap on which the laterite there rests; in the sandstone of the Southern Mahratta Country, between Kulladghee and the falls of the Gutpurba

near Gokauk; and in the primary schists of Sondur, and the copper mountain range, in the Ceded Districts. The formation of the Kupputgode range, near the manganese excavations of Wodoorti, is similar to that of Doni, previously described.

Flint pits.—About two miles southerly from the manganese locality, some excavations were pointed out to me in the plain, near the base of the opposite range, whence Hyder and Tippo used to supply their troops in this part of the country with flints. They are of a yellowish brown colour, translucent at the edges, tough, of a jaspery nature, and answer the purpose, it is said, extremely well. There is still an abundant supply.

The Corundum mines near Gram in Mysore.—The Corundum mines of Golhushully and Kulkairi, lie about seven or eight miles east by north from the fort of Gram. They occur in a bed of talcose slate, associated with mica slate, gneiss, and protogine; and consist of a series of excavations dug in the plain, varying from two to twelve feet in depth. The corundum is generally found in a gangue composed of white and greenish earth, arising from the decomposition of the adjacent rocks, and associated with ferruginous quartz, a poor brown iron ore, ferruginous earth, chert, a reddish jasper, schorl and felspar. In one of the excavations, I found a fragment of rock salt, and many of the wells in the vicinity are brackish The corundum often occurs in amorphous fragments, from the size of a pin's head to that of a turkey's egg. It is not unfrequently seen in hexagonal prisms, tapering slightly to one end. The colour varies from whitish to grey, reddish, and hair-brown. The pieces of corundum are thrown out, cleared and separated by the miners into four classes, viz. the reddish brown, the white, the chips of both, and the refuse. The three first form the articles of commerce; which, according to my native informants, are sent down the ghauts to the ports of Mangalore and Tellicherry; and there sold by the contractors to the Bombay and Arab merchants, at prices from 12 and 15 to 30 rupees the candy, according to quality. The natives on the spot, in 1837, told me that the mines had not been opened until within the last 8 years, and that the corundum is also found at Burkunhully, Kundeo, and Yedgunkul, in the Chinraipatam division: at Norhik in that of Narsipur, at Deysani Curbonhully, in that of Bannawar, at Appianhully, Beygoor, Bunnercota, Mundium and Permuty in Mysore; near Guzehutty

and Chennimully in Coimbatore, near the Tapoor ghaut, in Salem, and also in Cuttack.

Diamond Mines of Ramulacota in Kurnool.—These mines are situated in the Kurnool territory, about 21 miles south of the city of Kurnool, in the lower part of a large basin-shaped plain, almost surrounded by low hills of sandstone, grit, breccia and puddingstone, associated with the limestone of Cuddapah. The present excavations occupy but a circumscribed area, of about 1,000 square yards, and are dug in the alluvial soil at the base of the hills. Remains of old and extensive mines appear in a low adjacent ridge, composed of a dark ferruginous grit and conglomerate, and the rock has all the appearance of having been blasted by gunpowder. Diamonds of a very fine quality are said to exist in this conglomerate, but as they are few, and the labour of excavating and blasting the rock great and uncertain, the rock has been quitted for the alluvial soil; where, though the diamonds are of an inferior quality, they are more numerous, and attained with greater facility; and, with the most common tools, by ordinary native labourers.

The diamond pits, though not occupying so large a space of ground are deeper and far more extensive than the celebrated mines in the vicinity of Cuddapah, at Chinnoor, Avalumpully and Condahpetta. The excavations in the rock resemble those at Banaganpully, and at Muni Mudgoo, north of Gooty. The geognostic position, the alluvial stratum of water-worn pebbles and sand, in which the majority of the gems occur,—the chert, quartz, and jasper pebbles composing the puddingstone and breccia, cemented by a dark ferruginous sandstone, —the vicinity of granite and dykes of basaltic greenstone, present the conditions under which I have usually seen this gem appear in the peninsula. Kunkar is seen, but sparingly. The diamonds which I saw at Ramulacota, were of an inferior size, and but few crystallized in the octohedral form. They had severally the white, grey, yellow and greenish tints; but it is said those that occur in the conglomerate, and in a spot close to this rock, are generally of a superior description, with a fine roseate tinge. The process of mining and washing, resembles what I have before described, in speaking of the Cuddapah mines. There were about 20 natives engaged in washing the alluvium when I visited the spot, and while I was looking on a small fragment of diamond was discovered, which was regarded as a propitious omen. In the dry season, 500 labourers are usually at work, who pay generally a certain sum to the contractors. The latter I was informed, rented the whole of the mines from the Nabob of Kurnool, for about 750

rupees per annum. The usual hire of a labourer on the spot is, I believe, 4 pice and a meal of rice per diem. The opening of a new mine in the dry season presents an animated scene, and was sometimes honoured by the presence of the Kurnool Nabobs.

Diamond mines formerly were worked in the Kurnool territory, at Saitancota, Deonoor, and Tandrapaud. They are cut and polished by the jewellers of Muni Mudgoo, who have been long famous for their skill in polishing diamonds, and were formerly sent for sale to the metropolis of Golconda, and subsequent to its fall, to that of Hydrabad.

I have the pleasure to present to the Society a model of a diamond polishing machine, used at Muni Mudgoo, and constructed for me there by one of the polishers. The use of diamond dust in the process of polishing is thoroughly understood by the natives, and in splitting the larger gems they take advantage of the planes of cleavage.

Examination of the specimens of Minerals alluded to in the foregoing paper.—By Lieutenant J. Braddock.

No. 1.—*Gold dust, found in black magnetic sand.*—The grains of gold, though few, being large enough to form a judgment on, need not to have been tested; but, on testing them, after solution in nitro-muriatic acid, no doubt existed of their being gold.

No. 2. *Menachanite ?*—Feebly magnetic; in small grains, somewhat like coarse gunpowder. External appearance agrees to the description given of menachanite in Ure's Chemical Dictionary. It was examined as follows.

Blow-pipe.—With borax on charcoal, fused into a green glass. Fused with pure potash on platina foil, and treated with muriatic acid at a boiling heat, the powdered substance was partly soluble, leaving a dark brown residue. The muriatic solution was milky yellow, which, when tested, gave the following indications :—

Tincture of galls—Reddish brown colour.

Oxalic acid—No immediate effect: next day a small whitish precipitate.

Ammonia—Copious dirty brown precipitate: next day clear reddish brown solution, with darker precipitate.

Hydrosulphuret of Ammonia—An immediate deep greenish black, changing almost instantly on the surface to white, and passing afterwards into a dirty yellowish brown, which was ultimately precipitated.

On selecting by means of the magnet, a few grains more magnetic than the others, prussiate of potash, and tincture of galls, indicated the presence of iron. Two small grains, picked out from the other grains, proved to be silver. The mineral may possibly be menachanite, and may contain titanic acid, but the quantity was too small to be subjected to a sufficient examination.

3. *Malachite* ?—(and a button of metallic copper).

The proper tests gave distinctive indications, that copper was present in this mineral.

4. *Silver ?*—This specimen was a button or large globule ; it had a blackish purple tarnish ; had been flattened by the hammer. On trying its further ductility, it flattened under the hammer, and crumbled at the edges ; the crumbled portion had a granular appearance ; globule cuts like sliver ; white ; on beating in the diamond mortar, it flattened and was malleable.

The usual tests left no doubt of its being silver : it dissolved in nitric acid, and left only a little black powder as a residue.

5. *Grey silver ore ?*—Crushes easily ; frangible ; powder not at all the colour of the ore, but dark red lilac. The external characters of the ore approach near to the description in Ure's Dictionary, of the grey carbonate of silver and bismuthic silver. As the specimen was small, a piece about the size of a pea was examined, and gave the following indications :—

Reduced to powder and treated with nitric acid ; slight disengagement of nitrous gas : large portion undissolved.

A.—This acid solution gave on testing the proper indications of silver.

A.—This residue was treated with muriatic acid and heat : a part was insoluble, B.—The muriatic solution was tested and gave the following indications of antimony :—

Water—The solution turned milky.

Zinc—Black precipitate.

Hydrosulphuret of ammonia—An orange coloured precipitate.

B.—On this residue, muriatic acid and heat appeared to have no further action. Nitric acid was then added, and the mixture boiled. There was still an insoluble portion left. C.—This nitro-muriatic solution was examined as follows :—

Water—Produced opalescence (antimony).

Prussiate potash—Emerald green, changing to blue when precipitated.

Ammonia—White flocculent precipitate.

Hydrosulphurate of ammonia—Greenish, changing yellowish brown.

Tincture galls—No effect: next day settled into a flocculent brownish yellow precipitate.

Phosphate soda—Slight white flocculent precipitate.

Sulphate of iron—Slight dust-like precipitate.

Oxalic acid—*Muriate of tin*—no effect.

The precipitate C contained sulphur, which was burned off, leaving a black residuum, which by deflagrating with saltpetre, indicated the presence of carbon in some shape. The residuum after deflagration was washed, and 2 or 3 minute globules of silver collected; also another minute metallic globule, and a little silex, and earthy matter.

The small metallic globule was so minute that it required to be examined by the microscope, and admitted only of two tests being applied to it. The examination resulted as follows. Colour, dark iron grey; lustre, dull, metallic; streak, a lighter grey of dull lustre; malleable; harder than silver; insoluble in nitric, but soluble in nitro-muriatic acid:—this solution was tested with,

Hydrosulphuret of ammonia—Which gave a dark green colour, which turned into a black precipitate, leaving the solution tinged olive.

Prussiate of potash,—gave an emerald green colour.

I may here state that two minute metallic grains were picked out of the menachanite, No. 2, which proved as before stated to be silver; and a third grain soluble only in nitro-muriatic acid, which being tested as for platina, and compared with a solution of platina foil, gave indications as follows:—

	Metallic grain.	*Platina foil.*
Muriate of ammonia	no change	no change.
Old muriate of tin	dark brown passing to lilac.	yellowish brown.
Fresh made do.	lilac	lilac.
Prussiate potash	bluish green	lighter bluish green.

Tincture galls..............lightish brown...... .... darkish brown.

Query, whether the solution B, and the single globule from C, together with the last mentioned single grain picked out of No. 2, may be considered as indicative of platina? The silver ore No. 5 may perhaps contain the following substances.—It was picked up in the same locality as No. 2, of the specimens mentioned in the foregoing paper.

Silver.
Antimony.
Sulphur.
Carbon, or some carburet.
Platina? doubtful.
Silex.
Earthy matter.

No. 6. *Manganese*?—slightly magnetic.

Blow-pipe—with borax, amethystine glass. Dissolved in muriatic acid with heat, evolving chlorine. The solution behaved as follows.

Prussiate Potash—Green grey precipitate.
Ammonia—Brown precipitate.
Carbonate Potash—do.

The powder was tried with nitre, but no deflagration occurred.

The specimens most interesting in the examination were the grey silver ore, and the small metallic grains; but all the specimens were so minute in quantity that only a first rate analyst could pronounce decidedly concerning the more difficult points. It would be desirable that the bed of the nullah and the hills immediately adjoining should be inspected more minutely: it might repay the mineralogist, if not in pocket, perhaps in the honour of new discoveries.—Captain Newbold was kind enough to assist me in these examinations.

IV.—*Journey of the Russian Mission from Orenbourg to Bokhara.—Translated by Colonel* Monteith, k. l. s., *Chief Engineer of the Madras Army.*

(*Continued from vol.* 10 *p.* 168.)

BOOK SECOND.

Chapter I.

Observations on the Khanats in the vicinity of Bokhara—the ruling race in Central Asia.

The Asiatic people to whom the Russians give the name of Tartars, have the nose slightly flattened, the cheek bones prominent, little beard on the chin, and small eyes, frequently with a cast in them. Gengis Khan, at the head of the Mongols, subjugated the Tartars, who became incorporated with his army, and those of his successors. As they were the most numerous, the conquerors adopted the Turkish language, barbarous as it was; from this mixture of Tartars and a race similar to the Mongols, sprang, I think, all those tribes regarded as Mongol Tartars: they ought to bear this name, which is appropriate to them, and which prevails in Turkistan.

What difference is there in fact between the features of a Kirghiz, an Ouzbek, a Turkoman, a Kezareh, an Eimah, and those of a Turk of Constantinople, or a Tartar of Kazan or Crimea *

Some modern geographers affirm, with but little foundation, I think that the Kirghiz possess the features of pure Tartars, which resemble those of Europeans; but it is impossible to confound the Kirghiz, and the other Mongol Tartars, with the Kalmoucks, since they do not possess the same corpulent frame, or features so strongly marked.

The Kalmoucks speak a different language, and have the Tartar features to the most exaggerated degree.

A part of the Kalmoucks who fled from the banks of the Volga, in 1770, were obliged to remain, or were captured by the Kirghiz; this has tended in some way to increase the strongly marked Tartar features, which are still met with among the Kirghiz.

Having on the road asked a man, who possessed completely the Mongol feature, if he was a Kalmak (that is what is called a Kalmouk),

* The author must speak of the Turkoman tribes in Asia Minor, for the Turks of Europe, by constant mixture with Europeans, have decidedly Greek features, full beards, and generally a fairer complexion than the people of the South of Europe.—*Translator.*

his companion began to smile. On enquiring what there was in the question to excite their mirth, I learned that the Torgout Kalmouk, having been reduced to a state of slavery among the Kirghiz, it was considered as a disgrace to have descended from them. I then understood what it was that had caused a smile at the expense of the Kirghiz, whom I had so unintentionally offended.

The boundary which is generally assigned to Tartary, does not appear to me correct: for, under this name, the country inhabited by the Tartars of Siberia, Kazan, Astracan, Crimea, and that which extends from the Belour mountains to the Caspian Sea; for the Turks of Constantinople ought to be included in the same race: in Dzoungarie in the little Kouldja, five hundred dwellings belong to the Doungani Tartars, who are the same race with those who occupy one thousand dwellings in the great Kouldja, and who all speak the Tartar and Mongol languages.

The Tartars, who dwell and reign in the country, erroneously called by us little Bokhara (a name unknown to any Asiatic, and for which I will henceforth substitute that of Chinese Turkistan), although subjugated by the Kalmouks, have nevertheless not become entirely extinct; they are, however, more of the Dzoungar Kalmouk, who passed into Chinese Turkistan, along with the Mandchous in 1759. Tartar is still the prevailing tongue in Cachghar, Jarkend, Khoten and Ak sou. These then are the countries which belong to Tartary in a literal sense.*

I do not coincide in the opinion of those who maintain that geographically, Tartary should be regarded as extending eastward, as far as the Belour mountains, and to the south-east as far as Hindoo Koosh, which there separates it from Afghanistan.

In this case, the race of Tartars, who never extended so far southward, would at the same time comprehend, under the denomination of Tartary, some countries which are not of Tartar origin, while it would exclude Chinese Turkistan, which is literally so. If in geography we give to a country the name of a people, it should be conditional on such people inhabiting that country.

It appears to me then, that Central Asia would be a more appropriate name to introduce in lieu of Tartary, since I have found it more correct, and more geographical.†

* I have seen many of these people who speak Tartar and not Mongol.—*Translator.*

† It is almost impossible to translate this chapter, which is obscure even in French, and is generally the case with the Count's style of writing, it not being his native tongue.—*Translator.*

Chapter II.

Central Asia—Division—Appearance—Mountains—Rivers and Streams—Sea of Aral—Marshes—Climate.

I consider Central Asia to be the country bounded by the Irtich, the Altai, the Tarbaghatai, the Moussart or Mous-tagh (ice mountains), the Belour (christal), the Hindoo Koosh, mountains of Ghaour, which bound the north of Persia, the eastern shore of the Caspian Sea, the Oural, and the northern boundary of the steppe of the Kirghiz.

Independent Tartary is applied to those states, which are still unsubjected; in which sense, they belong to political geography, but to preserve consistency in any description, I will adopt the name of Independent Mongol-Tartary.

The great table land, inhabited by the Mongols, may be called Mongolia, and to avoid confusion, I will adopt the names of great and little Tibet, Chinese Turkistan and Dzoungarie, or province of Ily, as the Chinese call it.

The regions of Asia, which I have either visited, or obtained certain information regarding, are, to the north, the countries of the Kirghiz; to the west, the Khanat of Khiva, the Cara-calpaks, the Aralians, or inhabitants of the banks of the Aral lake, and Turkomans; to the east, the Khanat of Khokhan (called Ferghana by the Arab authors), including the towns of Tachkend and Turkistan; to the south, Bokhara, the desert inhabited by Turkomans, the Khanats of Meimeneh, Ankoi Balk, Khoulm, Badakshan, Koulab, Hissar, Cherzabés (green city), the country inhabited by the Gillijes Afghans, or eastern Persians, the Kezareh, the nomade Chiites, Chgaanies, the Dervazeh Pagan nomades.

The elevation of the steppe of the Kirghiz is very low, by our observations, the barometer, during a constantly calm atmosphere, stood at 27 inches, seven and eight lines, the thermometer being at about 8 or 10 degrees of Remeur. The steppe, about the 52 degrees north latitude, as a fertile soil, producing forests of pines, birch, and good grass. To the south, the country is deficient in moisture, a few fir trees here and there met with in some spots of the Olou-tagh, a chain of mountains, which, generally speaking, only present valleys, devoid of vegetation, granite rocks, and mines of lead.

In the western parts of the deserts, that is to say, the route from Bokhara to Orenbourg, grass is only found near the mountains of Mongh-odjar. Beyond the Orsk it is not met with to within 250 verstes of

the Oural. Not a bush is met with in this space, so that caravans are obliged to carry fuel to cook or warm themselves. It is impossible to make use of cow-dung except in dry weather.

The greater part of the Kirghiz steppe, is composed of argillaceous plains, slightly undulating and covered with worm-wood, a few thorny plants, and on approaching the south, the bush called saksaoul.

This dreary waste includes some extensive sandy deserts, the largest of which is the Cara coum, bounded on the south by the Sir-deria, and the Bitipak which extends to the north and N. E. of Turkistan: having before described these deserts, it is unnecessary again to mention them; cultivated spots are to be met with, on the banks of the Sir-deria, and between the river Kouwan and the Djan-deria; they are also found near all the towns, for instance, near Turkistan, Tackhend, and others.

The country between the Sir and the Amou-deria, is occupied by the Kizil-coum, the soil on the northern and southern extremities is clay, with less admixture of sand than the steppe of the Khirghiz, but more arid, and consequently more barren.

Between the Caspian and the Sea of Aral, the soil is generally sandy, water is here procured from wells, said to be from six to nine toises, or fifty-four feet deep. A rocky chain of mountains called Kharaghoumbet, runs along the Sea of Aral, and from the banks of the Bay of Bourzouk, or Koul-Madjar, to the nearest point of the shores of the Caspian, the ground is covered with shells, apparently indicating an ancient junction of those seas.

The cultivated spots near the towns, or on the banks of rivers, are merely small patches, rendered fertile by means of irrigation, the greatest part of this region is a desert, inhabited solely by a small number of the wandering tribes.

The vast plains of Central Asia, are intersected by chains of mountains. In the midst of the steppe of the Kirghiz the group of Oloutagh rises above all the mountains of the desert; it terminates the Arghamat chain, running from east to west. Two ranges branching off from the Oural mountains, runs into the steppe, the one near Gouberlinsk, of which we have already spoken, the other near Akto. caraghai, passes to the north of Verko-ouralsk; this branch retains its name as far as the source of the Tousak; then it is greatly diminished in height, and takes the name of Dajabouk-caraghai, after which it again attains a great elevation near the source of the Soun-louk, it again sinks, takes the name of Karaadir-tagh, and joins one of the branches of the Moughodjar mountains.

The Karaadir-tagh mountains, extend to the east, as far as the Toupalak-tagh, a branch terminated by the heights of Teke-tourmaz and Kotour-tagh, near the Sari-tourghai. It is worthy of remark that not a single salt lake is to be met with in the western side of the Atkocaraghai, though there are several immediately on the east of this chain.

The Boukhan hills, to the south of the Kizil-coum, extend to the west, as far as the Amou-deria, near Khiva; they then form the chain of Vassil-cara, and are well known by that name,and perhaps close to the Amou-deria, they are the origin of the Djani-chir, or Lion's heart, a name which is found in Hadji Khalfa's Turkish geography, though actually unknown in Bokhara.

On the eastern side the Boukhan hills unite with the Koukertli, and apparently only a branch of the Alps, situated to the north of Samercand, as well as the whole mountainous country of Bukbouldouk, Sousiz-cara, Koultchouk, and Arslan-tagh, is a branch, which detaches itself from the Alpine country, lying to the north-east of Samercand, and probably between it and Djisagh. The southern ramification of this branch is terminated by the Noura-tagh (mountain of light), which is very high, we had a view of its summit from Caraghata, which in the month of December, was covered with snow, of which there was none on the plain. It will be hereafter shewn, that this mountain favourably affects the cultivation of the lands, between it and Bokhara.

The south eastern extremity of this table land, is the most elevated, and from the space between Khokhan, Nissar and Dervazeh, spring those mountains covered with eternal snows, of which I was unable to learn the names from any native of Bokhara; the highest of these chains lies to the north of Dervazeh, the next in height are those to the north of Khokhan, which in the first instance, extends along the road, leading to Kachghar, cross it near mount Terek, which is also almost constantly covered with snow, and then spread to the left of the road. Monsieur Nasarov, who was obliged to halt at Khokhan, and at Margakhaneh, in the year 1819, and who has since given an account of his journey, calls these mountains Kachghar-divani; they are joined by the Terek to the Ala-tagh, where the Sir-deria has its source. The Ala-tagh extends from Turkistan, Tackhend and Khokhan, to the frontiers of Dzoungarie, all the mountainous country is inhabited by tribes of Kirghiz of the great horde, called the black or savage. These mountains are call-

ed Ala-tagh, which means pie-bald form, some of the summits being constantly covered with snow, whilst others are brown and free from it.*

There is a very high mountain situated to the north of Ramit, a city to the east of Bokhara. This mountain joins the chain extending to the north of Iagnaou, and unites to those of Bokhara; then separating into a number of ramifications, the general direction of which I have attempted to lay down on the map, between Samercand and Chersabés (green city), there is a very elevated chain, which gradually diminish as they divide before reaching Carchi. In following the road to Ghoussar by Deïnaou, to Hissar, there is on the north side a very elevated chain of mountains, which become lower on approaching the Amou-deria. Hereafter I will describe the route followed by the caravans from Balkh to Caboul, a route, which if accurately kept, would throw much light on the topography of these countries. The two great rivers the Amou and Sir, water the countries through which we passed. The Amou only takes this name after the junction of the Zour-ab or Wahch, with the Badakhchan, two considerable streams, one coming from the north-east, the other south-east the Amou. These receive the Kafernihan (name of the infidels), the Toupalak; the Ghouloum majestically flows in a bed of from 200 to 300 toises broad, it then divides into two branches, and falls into the lake of Aral, after a course of nearly 1,400 verstes, or nearly 1000 miles. I do not imagine that the Mouhrab can reach the Amou, and it appears to be lost in the sandy desert through which it flows. It is certain that the river of Samercand called Kouwan, and also Zer-afchan, is lost in the Cara-koul lake, which has no apparent communication with the Amou-deria (Oxus), and is distant from it nearly 30 verstes.

Much discussion has taken place regarding the ancient mouth of the Oxus. Some geographers have supposed that the travellers of the 16th and 17th century, have less expressed what they have seen with their own eyes, than what they have endeavoured to reconcile with the frequently false geographical statements of Ptolemy, and even deny that the Oxus ever flowed into the Caspian, though Jenkinson, Bruce, Hanway, Beckevitch, all state that a branch of this river actually falls into the Caspian. It appears to me there is some credit due to these travellers, particularly as Monsieur Mouraviev,† a colonel in the Russian service, who went from the Balkan bay to Khiva in the year 1820, himself saw traces of the

* I think this is a mistake, Ala-tagh is literally high mountains, and a very just name for them, they divide China from Tartary.—*Translator.*

† I have generally seen his name spelt *Mouravieff*, now a general, and lately employed on a diplomatic mission to Constantinople.—*Translator.*

branch, mentioned by the before mentioned travellers. M. Mouraviev thinks the Amou, about 160 verstes north of Khiva, turned to the west, and divided into two branches before entering the bay of Balkan. However it is not Monsieur Mouraviev alone who has assured me of his having seen the ancient bed of the Oxus in many places between the Caspian and Khiva, in which bushes now grow: a Major of Cossaks and native of Khiva, who was a very well educated man, considered it would be easy to restore the ancient course to the Amou-deria, which he supposed was too notorious to be doubted. It is currently reported that this river was turned by the Khivians during the piracies,* of the Cossak Stenko-Razin, in 1670; but Jenkinson says in 1559. The Oxus formerly fell into the Balkan bay, but now does not reach so far, but flows into the lake of Kitai, or Aral; all the water in this country is procured by canals from the Oxus, which is the reason it no longer reaches the sea.

The general opinion at Khiva is that an earthquake, about 500 years ago, changed the course of the Amou-deria. This assertion has nothing impossible in it, as the countries of Khiva and Bokhara are very subject to these natural convulsions: it is therefore quite possible that the Oxus formerly divided into two branches north of Khiva, one falling into the Caspian, and the other into the Aral: this, if correct, will reconcile the conflicting opinions of geographers on this subject.

The upper Amou-deria, or Zour-ab, near Dervazeh, is about 40 toises broad, and exceedingly rapid, till its junction with the Karateghin. Gold dust is found in the sand; the banks are very high and precipitous, and the bed obstructed with rocks, over which the stream foams with great noise and force. We will leave to Mr. Elphinstone the task of describing its source, as I heard nothing regarding it, which could be depended on.

The Sir-deria which has a course of about 1200 verstes or 800 miles, only becomes considerable after its junction with the Akboura, which runs near to Tadj or Takht Suleiman, a mountain also called Och. Here its

* This river is expressly stated to have been turned by the Khivians, about the time of the Russian expidition under Prince Bekevitch, in the reign of Peter the Great. The troops were massacred or made slaves by the Usbecks; from which time, the Russians have constantly had in view the conquest or punishment of this state. I fully coincide with those who assert that the Oxus once fell into the Caspian; at least its principal branch. An intimate friend of mine, Budeh Beg, who was in the service of Persia, and subsequently entered that of the Khan of Khiva, considered it a point beyond dispute, and asserted that, in high freshes, a part still look that direction. Should Russia occupy permanently that position, Khiva, I believe there will be no doubt of the Oxus being again restored to its ancient bed, which will throw the whole of Tartary open to any enterprize of hers, either warlike or mercantile.—*Translator.*

valley enlarges, and the stream becomes more rapid. Its source is hid in the mountains of Belour and Ala-tagh. None of the travellers who annually go from Khokhan to Kachghar, could give me the least information on the subject. Many streams fall into the Sir between Khokhan and Kodjend; near the last city it is larger than at its mouth, in the Aral; the sandy deserts through which it flows absorbing a great quantity of its waters. About 350 verstes from its mouth the Kouwan separates from it; this last then divides into five channels, which again unite, and form a number of lakes called Aralu-koullar, near which the country is fertile and well cultivated. Before the Sir enters the lake of Aral, it again unites with what remains of the Kouwan. Higher up it also receives a small stream from it, when the river is full at the melting of the snow. This branch certainly offers facilities for irrigation. The people who reside on the river assured me both the Amou and Sir are fordable at several points; but I have never seen any person who had actually crossed in this way.

They have recourse to different methods for crossing these rivers. I passed the Sir in a row boat; M. Nasarov crossed it near Khokhan in a boat drawn by horses, swiming across. Another and rather a singular method was told me; the traveller's clothes are put into two leather bags,* which are afterwards filled with air, and on which he takes his seat; they are then tied to the tail of a horse, which swims across the river; the traveller being bouyed up by the inflated bags. From what I was told in Bokhara, I am inclined to think the Amou-deria is passed in the same manner. I was assured that people who cannot swim lie down on one of these inflated bags, and paddle themselves along, with one hand without any danger; as for the Kirghis their skill in swimming is of little use to them, as they always hold fast their horse's mane with the right hand, swim with the left, and thus cross from one bank to the other of the Sir.

The Irghiz and the Tourghai, the junction of which I witnessed in the Tonghouz-khan, are inconsiderable rivers; in many places they are almost dry. They form the lakes of Aksakal, extending to the north-east, and the most westerly of which is separated from the sea of Aral by chains of clayey hills, in the midst of sandy deserts, making it very unlikely any subterranean communication should exist between them: the distance is 130 verstes. The names of Taraz and of the Talaz are at present unknown.

The sea of Aral, called by the eastern nations Ourghentch, is sur-

* This is common on the Tigris and Euphrates also.—*Translator.*

rounded on the east and north-west by sandy hillocks and clayey plains; on the north-east the banks are twenty or thirty toises above the water; on the north-west are the bay and lakes of Koulmaghour. Near them are to be seen the remains of an ancient fortress, a well of fresh water, and the traces of the ancient bed of the sea, extending a considerable distance on this side. On the west of the Aral is the chain of Karaghoumbet hills, very steep on the side next the sea, but with a gentle slope on the other side, and giving vent to numerous small streams. The easiest route by which Russian troops could reach Khiva would be along the foot of these hills, at the distance of 5, 10 or 15 verstes from the sea of Aral. The road then passes near the Aksouat, and the Khodjabeg, two lakes about 40 verstes from each other. The latter is about 100 verstes from Khiva. It is only after reaching this lake that the water of the sea of Aral becomes fit to drink; the water here changes colour, becoming whitish by their mingling with the Amou. The southern part of the sea of Aral is full of islands, inhabited by Aralians, a people subsisting entirely on fish, and tolerably expert in the management of their vessels. They make use of sails; the Kirghiz, on the contrary, content themselves with coasting along in row boats as far as Khiva. I was assured they never used sails; being in that respect different from the Kirghiz at the mouth of the Emba, who have lately begun to make the journey by water. The Aralians are the only people who fish in the sea of Aral; the Kirghiz confine their fishing to the Sir. The same kinds of fish are probably found in the sea of Aral and in the Caspian. We saw at Bokhara a small kind of sturgeon, found in the former sea; it was 3 or 4 feet long. I imagine the western part of the sea of Aral is the deepest, as its banks are mountainous.

There are no marshes in the steppe. The Sir forms lakes from overflowing its banks at about 50 verstes from its mouth; some of them are dried up by the heat of the sun,and 10 verstes from either side of the river are plains covered with reeds. They resemble marshes, in spots where the inequalities of the soil have permitted the water to lodge every where; else the water filters through the road, without ever becoming stagnant. There are, however, places in the steppes where the soil is clayey, impregnated with salt, and where a person sinks in crossing, though no water is perceptible.

The climate of the Kirghiz country is very healthy; almost all strangers who reside some time have a disposition to grow fat; the air is very pure and light; in passing through we felt frequently the greatest pleasure from its fresh invigorating quality. Consumption or other

diseases of the chest are seldom felt, and the small pox is unknown. The Kirghiz, however, who come to Russia, are particularly subject to take the infection; as likewise in Bokhara, where it sometimes exists. The Kirghis have a great dread of this disease and with reason, as they generally take it at an advanced age, when it becomes most dangerous.

It is a great mistake to suppose the steppes of the Kirghis enjoy a cool or temperate climate. The heat is excessive, and the clay plains, or burning sandy deserts, retain a long time the heat, more so from the total absence of shade or vegetation.

In the commencement of May, the heat had already become almost unbearable. We moved with difficulty; all animals had sought what shelter they could find, and there reigned a dead silence. Dew is seldom known at this season, and towards the end of April the grass is already burnt up. In the month of June 1821, the thermometer at Orenbourgh rose 49° (Reaum) in the sun, and was 27° at 10 P. M. In the winter it often fell to 30°. The Kirghiz during the summer go almost naked; wrapping the skin cloak round the middle, leaving the back and upper part of the body exposed during the time they are at work.

To these burning summers succeed very severe cold in winter, but are more temperate to the south of the Moughodjar mountains and deserts of the Cara-coum.

Chapter III.

Khanat of Khiva—Route from Saratchik to Khiva—Khanat of Khokhan—Wild Kirghiz—Mountains of Ala-tagh.

It is not necessary to dilate much on the Khanat of Khiva,* M. Moraviev, who visited it in 1820, having published a detailed account of his journey. A daughter of Abulfaiz of Bokhara, contemporary of Nadir Shah, married the Khan of Khiva, named Kaip, of a Kirghiz family, from whom is descended Mohammed-Rahim, now governor, who is as enterprising as fortunate. He has succeeded in bringing under subjection many of the Turkoman tribes, situated to the south-east and west of his dominions. His power at present extends from the shores of the Caspian to the boundaries of Bokhara; the city of Khezarist or Hizarasp

* Khiva was built after the destruction of Urgung, once a great and powerful city, and capital of the kingdom of Kharasm, which Khiva now is.—*Translator.*

is his southern possession, and the tribes under him wander as far as the 40th degree of north latitude; the determined enemies of the Turkoman tribes subject to or bordering on Persia and Daghestan.* These Turkomans have rebuilt the city of Seraghs (Seerakees), a town about 200 verstes south-west of Mawri.

After the conquest of Mawri, Mohammed-Rahim Khan seized Seraghs; but, not being able to retain it, made it over to his Turkomans as a protection to his hereditary states. From the invasion of Persia other tribes of Turkomans have been incorporated with these people, who were expelled from Mangkichlak by the Kirghiz, and occupy the country as far as 44° north latitude.

The Turkomans who inhabit the shores of the Caspian have constant intercourse with Russia, from whence they import wheat and flour. They are determined enemies of Persia, and in 1813 sent a deputation to general Ritchev (Governor General of Georgia), begging him not to conclude a separate peace with Persia, as they hoped soon to gain some decided success over the common enemy.

The Khan of Khiva has succeeded in seducing the remaining tribes of Turkomans from their subjection to Bokhara, whose territories they now plunder to shew their attachments to their new master.

The rapacious Mohammed-Rahim is suspected of encouraging the plunder of the Bokharian and Russian caravans, and his subjects make excursions into Bokhara, but in small numbers, and secretly; their power being unequal to resist that of Bokhara, which is six times more numerous. In the year 1808 the Khan of Bokhara took Khiva, but restored it to its prince Veledi-Nassar: he died within a short time, and was succeeded by Mohammed-Rahim, who lost no time in recommencing his pillage of the territories of Bokhara. This he continues to the present time, returning evil for the favours conferred on his brother. He likewise attacked the Kirghiz who were established on the banks of the Sir, and carried off a great number of prisoners, whom he has obliged to take lands under Khiva. Mohammed-Rahim has dug a number of canals for the purpose of irrigation, one of which extends 120 verstes from the point in the Amou from which it originally is drawn off.

New Ourghendj is the most commercial of all the towns subject to Khiva, and the principal mart of caravans; it however contains no public caravanserais, where the merchants can dispose of their goods.

The inhabitants of Khiva are composed of Ouzbeks, the conquerors

* There are two provinces of this name, it must be a district of Mazanderam.—*Translator.*

and masters of the country; Turkomans, part of whom cultivate the soil without entirely abandoning their pastoral habits, Cara-calpaks and Aralians, Kirghiz, some Jews, besides the Tadjiks, or fixed inhabitants, of whom we will speak in the description of Bokhara.

Though the inhabitants of both Khanats are of the same race, language and religion, the Khivians have not reached so high a state of civilization as their neighbours; agriculture is less attended to; the habitations inferior; commerce more restricted, and customs more barbarous. The climate is colder, but the soil and productions are nearly the same as those of Bokhara, but not so abundant in Khiva; silk is not exported and bread generally dearer than at Bokhara. We will hereafter speak of the trade with Russia and the Khanat of Khiva, confining the description at the present moment to the route from Saratchik to Khiva.

Saratchik to the wells of Belawli, affording an abundant supply of water—4 marches.

Some wells are met with between that and the Emba of Djem—3 marches.

Sulphurous springs of Ioutch Kanata—2 marches.

To Mansoulmas 3 wells and abundance of water—3 marches.

Here commence the sandy hills, which cannot be passed in less than nine days, three of which are in very deep sand; water is found every two or three days; hills called Aïboughour—9 marches.

Near these wells runs a river cut from the Aral, and ending in a lake surrounded by sand, no water till within sight of Ourghendj—3 marches.

This route, which was performed in twenty-four days, was much more difficult than the one near Aral lake, which is, however, much longer. From Khiva to Bokhara it is 350 verstes.* The Amou is crossed opposite new Ourghendj, or at Khanka, distant from it twenty-five verstes, or at Khezarist, fifty verstes; still lower down there is cultivation for about twenty verstes on the banks of the river. The most frequented passage of the Amou in going from Khiva to Bokhara is at Koukertli (sulphur); the right bank of the Amou is here very steep. In leaving Khiva the road lies on the left bank of the river; the cultivation here extends about five verstes from the stream. The sands commence at Koukertli. There is another road by crossing the river at Tchoutchak (Outchchak) three legged, because these small hills here approach the river. This route is through many sand hills among which are frequently experienced very violent gusts of wind. This is the nearest road.

* Two hundred and thirty-four miles.

At Koukertli water must be carried, for the distance between that place and the cultivated lands at Bokhara, which extends to forty verstes of that city; indifferent water is procurable at Tcharkoucha. The route along the banks of the river has less sand, and is much better, but increases the length by 150 verstes.

The Khanat of Khokhan lies to the east and north-east of Bokhara; this country has been greatly increased since Tackhend was added to it in 1805, and Turkistan, and all the adjacent cities. It is bounded on the east by deserts, or the Sir-deria; on the south Kachghar-divani; on the east Ala-tagh; on the north Kazakli-djoulak and Sousak; on the south Och and Takht-Suleiman are its frontier towns. The Ak-mesdjid, on the Sir, is very well known by this name, which was given it on account of an ancient mosque situated there, of which the ruins alone are now to be seen. All the caravans from Bokhara to Petropavlosvk pass through this country. I have been told that the Isoun tribe, belonging to the great horde, frequents this neighbourhood. 100 verstes to the east of the Ak-mesdjid is Kazaklu-djoulak, a small town upon the Sir. In the distance may be seen the northern extremity of the Ala-tagh—this chain of mountains in separating from the Sir loses itself in the steppe and bears the name of Cara-tagh, from the neighbourhood of Turkistan.

Turkistan is defended by a fort, with a ditch of about fifteen feet wide, which can be filled with water. The Karatchik river runs about five verstes from the town, and irrigates the fields. The town has twenty-two wells, and about 1000 mud houses; it has the appearance of decay.

The tomb of Kara-Ahmed-khodja, one of the most revered Mahomedan saints of Turkistan, is situated near a Mesdjid which bears his name; in which there is an immense pot, at least twelve feet in diameter, resting on a stand of cast iron. The rich people dress food for the poor in this utensil, which is distributed on certain days in the year.

The population of Turkistan is composed principally of Kirghiz and a few Ouzbeks.

Tackhend, has at least 3000 houses, and is surrounded with a mud wall falling into decay; as are likewise the houses. The buildings, though intended to resemble those of Bokhara, are much inferior both in construction and materials. There are ten schools on the same footing as those of Bokhara. Canals from the Tchirtchik, which runs about twenty verstes to the south of Tackhend, supply the city with water, and irrigate the lands about it.

The territory of Tackhend produces cotton and silk; of which Turkistan has but a small portion.

The artillery of the beg of Tackhend consists of a few small guns (zumbarooks), carried on camels, like the Persians. In the neighbourhood of the town there are many villages, the principal Djiti-kend, Sairam, Karaboura, Tchimgha, Ikan, inhabited by the Ouzbeks; there are only a few Tadjiks and no Jews.

I have traced the map of this part of the country from a great number of routes. From Turkistan to the mouths of the Sir, from Bokhara, Tackhend, Khokhan, Khodjend, Ouratoupa and Samercand. From the information we were able to obtain it is clear the Russian map of Central Asia is very incorrect for the steppe of the Kirghiz; it is however, far superior to Arrowsmith's, which is still more so. In the constructions of this map, I have not adopted the Russian longitude and latitude of Khokhan and Khodjend; I have approached nearer that assigned by Arrowsmith, without having followed him as an authority.

Khodjend stands on the bank of the Sir, and it is necessary to pass through it on the road from Ouratoupa to Khokhan. This the best but the longest route, a difficult and mountainous country being avoided. The desert road leads from Marghalan to Samercand. Khodjend is a fortress surrounded with fields and gardens like Bokhara.

Khokhan, situated about ten verstes from the Sir, has at least 6000 houses, and is little less than Bokhara. Canals from the Sir convey water to the city. There are no walls round the town, but the palace is fortified and has two gates built with brick.

Khokhan has four caravanserais, where a great number of foreign merchants constantly reside. All the trade between Tackhend, Kachghar and Bokhara, passes by Khokhan. The two countries are constantly at war, but Bokhara is much the most powerful. During the last ten years, the Bokharians have taken Ouratoupa, which was formerly an independent district.

Omar Khan, the present ruler of Khokhan, succeeded his father, Narbouta, and lives in good intelligence with the Khan of Khiva, to whom he is related, and with the chief of Badakhchan, to whose daughter he is married. Marghalan, it is said, is of the same size as Khokhan. This is a very ancient city, as are also Andidjan and Namanghan.

Och, situated at the foot of the Takht-Suleiman, is not so large. This is a great place of pilgrimage; people come to pay their devotions at a small square building situated on the top of the mountain. Tradition states that Solomon sacrificed a camel on this spot; where the blood is

shewn on a stone still perfectly red. It is, however, particularly frequented by people suffering rheumatic or other pain; who are said to be cured by extending themselves on a flat stone near the building. M. Nasarov states having seen the ruins of two ancient buildings, under one of which there is a cavern. This is not confirmed by other travellers, who likewise deny the existence of columns. This superstition draws a great number of people to Och.

From Och to Kachghar no towns or cultivated fields are met with; the country is mountainous; the black or savage Khirgiz wander about with their flocks in the valleys of the Ala tagh. These people have more the physiognomy of Kalmouks than the other Kirghiz, they are brave, and their horses said to be as swift as those of the Tcherkes (Circassians).

The Chinese merchants unite in small caravans, and trade with the Kirghiz of the Ala-tagh; they come from Kachghar and Kouldja, and have nothing to fear from this small nation. The Kirghiz pass the winter in the valleys of these mountains, cultivating a little barley and millet. The district of Iedi-sou (Yedi), seven rivers, is their favourite resort.

In the spring of 1818 they pillaged some villages about Tackhend; this incursion was quickly chastised by 5000 of the people of Khokhan, who made a fortunate irruption into the mountains. I owe the description of these people to a Tartar, who was made captive by them, and was kept a prisoner for seven years. He informs me there are seven of the summits of these mountains covered with perpetual snow, and some fir and cedar trees in the valleys. This Tartar was once exchanged for *thirteen* horses;* another time he formed part of a marriage settlement. He at last escaped with some Chinese merchants, and remained some time at Kachghar; from thence he made his way to Bokhara, and was carried by us into Russia.

From Kachghar to Och, this Tartar forded several rivers, and travelled through a very mountainous country, which was covered with snow, though none was in the valleys. There were many very large trees, but he remarked neither oak nor firs. The descent of the mountains was much longer than the side by which he had ascended, and the cold very severe.

Another traveller informs me there exists almost eternal winter on the Terek. There are three routes to choose in passing these moun-

* I think this must be a mistake; for nine Russian soldiers taken by the Persians were exchanged by the Prince of Casbin for a Turkoman horse, which is always considered the most valuable animal of the two.—*Translator.*

tains, in which the valleys are avoided on account of the depth of snow. The first that of Belawli or Tallig, to the north of the mountains; second, by the Terek in the centre; the third, that of Chart to the south.

Chapter IV.

Kachghar.

From all the information I was able to obtain, the Bokharians call Chinese Tartary, Alti-Chakan, or the six *cities*,* viz. Kachghar, Iarkend, Khoten, Aksou, and the two Ilys.

Kachghar is a large city, with a Chinese garrison, to which strangers enter and depart without difficulty. It is situated on a river of the same name, which falls into the Kizil-sou (golden river), which flows between Kachghar and Iarkend, a town on the great road from Kachghar to Cashmere, where they speak the Tartar language.

From Iarkend, the route lays through the towns of great and little Tibet; the country is very mountainous, and the caravans are obliged to make very short stages. The traffic is entirely carried by horses, as camels cannot pass over the rocks and mountains. The route is, Iarkend, four days journey; great Tibet, thirty-five or forty; and Cashmere, twenty-two. Half way between the two last named places, is the town of little Tibet. The river which passes this place is the same as the Cashmere stream, or one of its branches.

It appears probable that the towns, called great and little Tibet by the Tartars, are those more generally known by those of Ladak and Draouse, or Dervazéh. It is strange that none of the Tartars know them by this name;† all the Bokharians with whom I have conversed on the subject invariably gave them the application of great and little Tibet; also the Russian merchants, who trade between Semipalatinsk and Cashmere, call them by the same name.‡

* More properly countries or provinces.—*Translator.*

† The names of great and little Tibet comes without doubt from the habit several Oriental nations have, of giving the name of *belad* or *chehr* indifferently to a province, district or town.—*Note by M. Jaubert.*

‡ After the publication of this work I met with an account of the travels of a Georgian gentleman, Danibeg, translated from Georgian, and dedicated to the emperor Alexander, from India to the Russian frontier town of Semipalatinsk. I have abridged the facts related by the Georgian as much as possible, the work containing no other matter of interest.

From Cashmere I reached Tibet, a distance of 200 verstes, performed in twenty days.

Between Cashmere and Kachghar, there are no other towns than those I have already mentioned. Immediately in their neighbourhood, there are a few villages scattered in the mountains. Both great and little Tibet are surrounded with gardens. The houses are of wood, as in Russia, and the pent of the roof very high. They are followers of the Grand Lama.

This town is built on rocky hills, among which grow some oats; the inhabitants make a kind of paste of this, by boiling it in milk, which composes their sole provision. They are miserably poor, and the custom exists of several brothers having only one wife. A great deal of tea is used at this place. The wool from which the shawls are made comes from Lassa. Merchandize is here carried on sheep. From here to Cashmere the transport is however on horses.

Note.—Russian goods in considerable quantities might be sold at Tibet, such as silk and goldsmith's works. The Tchabas would readily purchase them. These people bring a great deal of goats' hair from Lassa, which is dispatched from hence to Cashmere. The journey from Lassa to Tibet occupies about three months.

I was six weeks travelling from Tibet to Iarkend; the journey was very tiresome, the looseness of the soil, the great precipices, the immense height of the mountains interspersed with glaciers, made a most melancholy impression on my mind; which was augmented by the complete solitude, for these districts are uninhabited. At last we came in sight of Iarkend; it is surrounded by clumps of trees, and has a very cheerful look.

The Chinese garrison contains about 2000 men; their chief is called Amban: more than three thousand Chinese are employed here in commercial pursuits. The climate of this town is healthy, but the water is bad. There are no fine buildings; the inhabitants appear in tolerably easy circumstances. In saying the climate is healthy I must except the autumn; I never met with any worse. The sky was covered with clouds of a singular kind of dust, of which the cause is unknown: it fell like rain; and the great dampness of the atmosphere gives birth to a kind of insect, called karbites, by the inhabitants, the sting of which is almost always mortal. When the inhabitants see clouds of the above-mentioned dust instead of rain, they hope for a good harvest; and an indifferent one when they have only common rain. The gale of dust sometimes lasts seven or eight days; it is so thick that the rays of the sun cannot pierce through it, and at the same time so fine that it finds its way through the smallest opening.

Besides Iarkend, the Chinese possess Houdam (Khoten,) Gachghire (Kachghar,) Aksou, Douroban and Ily; each of these cities have a governor of this nation. The Chinese are very numerous at Ily or Kouldja; indeed the number is said to amount to above 10,000. They are very proud and lazy, and spend all their time in smoaking. No inhabitant can leave the town without a passport; and it is very difficult to escape this precaution, as the surveillance of the authorities here is very severe. It is one of the means made use of by the Chinese to put a stop to disorders of all kinds.

From Iarkend I took thirteen days to reach Aksou. This Town is not larger, but contains many tolerably well built houses; it is situated in a valley, and divided into two parts, the one inhabited by the Chinese, the other by Mahomedans, who keep up a constant communication with each other. From Aksou, I was three days going to Tourfan, a small and ugly town. As its inhabitants are very few, it contains nothing worthy of remark. The frontiers of the Kirghiz country are about twenty verstes from this place. After leaving Tourfan, I passed several wandering tribes of Kalmouks, Kirghis and Kaisaks, and at last arrived at Semipalatinsk, after a three months journey.

I have fixed the frontier of great Tibet in 35° 50′ N. lat. and 76° 35′ E. long. from Paris. The following latitudes and longitudes I have drawn from the tables of the great Oriental geographer Oloug-beg, which I procured at Bokhara; and I place them beside those to be seen in the edition published by Gravius in 1652; the latitude of Bokhara is the only one I have been able to verify, and found correct to within about two minutes.

Table of Latitudes and Longitudes according to the Bokharian Manuscript.

Names.	Latitude.	Longitude.	By Gravius.	
	° ′	° ′	Latitude.	Long.
Bokhara	39 50	97 30	....	96 30
Samercand	39 37	99 16	... .	
Carchi or Nesef	39 ,,	98 ,,	....	
Khodjend	41 55	105 35	....	100 35
Badakhchan	37 10	104 24		
Anderab	36 ,,	108 45	....	103 45
Kech	39 30	99 30		
Koubadian	37 45	102 ,,		
Talikhan	37 25	102 50		
Khowarezm or new Korkandj	42 35	93 45		
Darghana-tach or Korkandj	42 17	94 30		
Hezarasp	41 ,,	95 ,,		
Kath	41 36	95 ,,		
Darghan	39 30	94 15	....	95 5
Izfidjab	43 36	99 50		
Taraz	44 31	99 50		
Ourouchna or Osrouchnah	40 ,,	105 ,,	....	100 ,,
Saghanian	38 14	105 30	....	100 30
Bech-kend or Penkat	43 ,,	101 ,,		
Ilak or Tounkat	43 25	101 ,,		
Ferghana or Akhsekat	43 25	101 20		
Ourkend	44 ,,	102 50		
Och	43 20	102 20		
Kachghar	44 ,,	106 30		
Houchach or Tchadj	42 30	109 ,,		

The accounts given by Oloug-beg do not agree with these I have obtained elsewhere; they are, however, so far curious, that this author mention towns which no longer exist, and of which no traces even are left: perhaps, however, I might have been able to give some interesting information concerning the ruins of these towns and the history of their destruction, had opportunities occurred of consulting Bokharians possessed of more intelligence than those that fell in my way. From Kachghar to Semipalatinsk, the journey occupies fifty-five days, twelve of which are to Askou, and twenty-five to Kouldja.

We are informed in the excellent work by M. Ritter, that the easiest passage among the mountains to the north of Kachghar is near Aksou. I ascertained the truth of this statement; nevertheless the caravans always go round, and have good reasons for taking another road. In going from Kouldja to Aksou they keep near the Chinese frontier, because they are sure of not being pillaged. In the same way, the caravans from Khiva, when they go to Orenbourg, pass by Saratchik or Saratchikova, and afterwards keep along by the Oural, instead of going from Khiva to Orenbourg by crossing the steppe of the Khirghiz.

From Kouldja to Semipalatinsk, the widest river is the Alaghouz; it flows to the north of the Tarbaghataï hills; the highest mountains are the Tchoulk-caraghai, 100 verstes from Kouldja; it takes two days to cross them.

There are two Kouldjas, the great and little; both situated on the Ily, and about forty verstes from each other. The caravans pass by little Kouldja, which lies to the north of the other. It is a fort without the slightest resemblance to those of Bokhara. It is more like an European fortification, having projecting angles and a species of bastion: a gun fires at sun-set, and the gates are immediately closed. The governor of the place has the title of Dziangghioun, and the police master that of Kalatai. Three Kirghiz and five Chinese had been beheaded for various crimes in the course of three months. Near the temples are idols of different sizes, made of clay, with embroidered dresses, and their hands folded over the stomach. Inside the temples the idols are generally of gold, enclosed in glass cases; bread is placed before them.

Kouldja, in the Chinese Dzoungarie, is defended by a garrison of about 10,000 Tchanpan, or Chinese foot soldiers. This town has six gates, and contains about 9000 houses, built of mud or wood. There are also some built of stone, and they all have roofs like Russian houses. Kouldja is not surrounded by fields; there are half a dozen villages inhabited by Chinese, at about thirty verstes from the town.

The Talku mountains are covered with magnificent forests, which supply Kouldja with wood. Generally speaking, the Kalmouks in this country are wandering tribes; a few have taken service under the Chinese, but in general there are very few with fixed occupations.

Besides the Dounganu-Tartars, a great number of Chinese are found at Kouldja: they are distinguished from the Kitaizi, or black Chinese, whose women have small feet

Near Kouldja the Ily is hardly more than 100 feet wide, and it may be forded in most places.

Chapter V.

Khanats of Hissar, Koulab, Ramid and Badakhchan—The Ghaltchas—Gold found in the Derwazeh river—The Siah-pouches—Khanats of Chersabés.—Itinerary from Bulkh to Caboul, and from Bokhara to Herat.

We have now to consider the countries situated to the south and west of Bokhara. We find the Mahomedan Khanats of independent tribes, who profess the religion of the false prophet, and others who do not believe in him, and are called by the Mahomedans infidels; all their people inhabit a mountainous country.

The richest of these states is the Khanat of Hissar. The Khan resides in the city of the same name as the province; it is situated about fifteen verstes to the west of the banks of the Saridjouï, or Kafer-nihan. He is father-in-law of the Atalik; and the faithful ally of the Khan of Bokhara.

The town of Hissar contains about 3000 houses; it is situated in a well cultivated valley, abounding in pasturage; almost all the inhabitants of this country are Ouzbeks, but a few Tadjiks are found in it, most of them very rich It is said that the Ouzbeks sometimes bring millet to the market; and, if they are unable to sell it, they throw it away, to save themselves the trouble of carrying it home. They possess considerable flocks, and are, to a certain degree, in easy circumstances.

The towns depending on the Khan of Hissar, are Deïnaou, the most considerable after Hissar; Saridjouï, Toupalak, Regar or Reg-ara, Caratagh, Dechtaband, Tchockmazar and Khodja-Taman. At the last place there is the tomb of a saint highly revered by the Mahomedans.

Ramid, 100 verstes north of Hissar, is a pretty large town; its khan commands the services of 10,000 men in his excursions. One of the highest mountains in the country rises near Ramid.

Koulab, containing about 3,000 houses, is to the east of Hissar, on the road from Badakhchan to Khokhan; it is independent. All these towns are inhabited by Ouzbeks, of whom a great number are agriculturists.

The khan of Abi-gherm is often at war with that of Hissar.

To the south of all these towns is the Khanat of Badakhchan; its capital, which bears the same name, but which is also known by that of Feizabad, is situated on the banks of the Badakhchan, which falls into the Amou. It is one of the most important Khanats of this quarter, though it furnishes no articles for commerce that I am acquainted

with, except lapis-lazuli; besides it is not on any of the great commercial roads.*

To go to Cashmere from Badakhchan, the route lays either through Kachghar or Peichawer,† which appears to indicate that the mountains which separate Badakhchan from Cashmere are impassable.

In the mountainous country east of Bokhara and north of Hissar, are found the Ghaltchas, a poor but independent people, professing the Mahomedan religion, of the Sunnie sect. Russian travellers give them the name of Eastern Persians, and they know no other language; their features differ much from those of the Tadjiks, and are even of a darker complexion than the Arabs of Bokhara. They inhabit miserable cabins in the valleys, are all cultivators, possess some cattle and very few horses.

Matcha and Ignaou are towns inhabited by the Ghaltchas, and situated to the north of Khokhan. A great number of Ghaltchas frequent this place, to exchange their goods for what they require.

This people extend further and further into the mountains, which are at present little known. Beyond is the country of the Kafirs, who they represent as a savage and barbarous race.

After passing Karateghin no more Mahomedans are met with. The inhabitants of this town are, however, not barbarous; the redoubtable Kafirs dwell in Calei-khoum, called also Derwazeh, and situated on a river of the same name. The country between Hissar and Derwazeh is so mountainous, that it is often necessary to lead the horses by the bridle. The roads are excessively narrow; and the precipices very steep, at the bottom of which the Derwazeh rolls with a thundering stream. Gold is found in the sands of the Derwazeh. For carrying water, skins are generally used in Bokhara, which preserve the form of the animal to which they once belonged. Those of sheep or wild goats are considered the best. They are filled by an opening left at what was the neck of the animal. The Bokharians tie the water-skin to a rope, and throw them into the Derwazeh; the violence with which it runs soon fills the skins with mud, sand, and some gold; which last it is afterwards easy to separate from the mud by washing; but as it is never without alloy, its relative price to that of pure gold is as 18 to 21. This custom may serve to elucidate a passage in Herodotus, where he describes the means used by the Indians to obtain gold from sand.

* There is a route through Badakhchan to Cashmere and Tibet, not through Cashghar or Chinese Tartary.—*Translator.*

† A third road as I before mentioned ascends the Oxus to its source, and goes by Juduck. —*Translator.*

To the south and the east of Badakhchan are found the Siknans or Siah-pouches, a half wild, wandering, people. They are not Mahomedans; are clothed only in the skins of black sheep, and their name, which signifies black clothing, is derived from their dress. Their country lies in the direct road from Khoulm to Peichawer. It is then necessary to pass by Tchetrar, their principal town, by Koundouz, and through such a mountainous country, that the roads are almost impracticable; and for that reason this road is very seldom taken. The khan of Badakhchan is constantly at war with this people, and prisoners then taken are sold by the merchants of Badakhchan at Bokhara.

There is an independent Khanat in Bokhara, Chersabés, or Chehrisebz, so called after its principal city, which is situated on a river of the same name. It is the same as the Kachka, which passes by Carchi, one of the largest towns of Bokhara. This river has several times preserved the independence of the Khanat of Chersabés, became, by means of dams, the whole country surrounding the city and fortress may be laid under water, which effectually prevents the Bokharians from taking possession of it; besides this the Ouzbeks of Chersabés are celebrated for their courage.

This Khanat, which had been joined to Bokhara by Mohammed-Rahim khan, separated itself again from it at the death of that prince. The loss of this territory must have been sensibly felt by Bokhara, for it is rich in various productions, and a river runs through its whole length. Very good cotton and roots for dying are sent from thence to Bokhara, and they receive in exchange iron, leather and other merchandize from Russia.

The khan of Chersabés can bring into the field an army, or rather *levée en masse*, of about 20,000 men.

The cities dependent on him, are Kitab and Douab, two fortresses, Djaouz, Pitahaneh, Iakabak and Outakourghan. Chersabés is besides deserving of attention from the circumstance of its having been built on the site of the village of Kech, the birth place of the famous Timour.

I will now lay before the reader two routes; one from Balkh to Caboul, the other from Bokhara to Herat—and will add a few words concerning the Khanats through which the roads lie, which will comprise all the information I was able to attain relative to the Khanats lying round Bokhara.

Nothing is more variable than the limits of a Khanat in Asia; for example, Balkh, which is probably the ancient Bactra, belonged to an independent khan; the shah of Afghanistan dispossessed him of it about fifteen years ago; but Kilitch-atia-khan, of Balkh soon recovered

his independence; and, at his death, in 1820, he recommended his two sons to the khan of Bokhara.

In the following year, Kataghan, chief of the tribe of Ouzbeks of Tchehlminar (forty towers), made incursion upon the territory of the two youths, and drove them out. Upon this the khan of Bokhara dispatched a force of 12,000 men against Kataghan, and forced him to take shelter in the fort of Balkh, where they hoped soon to take him prisoner; affairs were in this state when I left Bokhara.

In going from Balkh to Caboul, the first day's halt is at the tomb of the shah Merdan; where there is a small hillock. The second stage is to Khoulm, an independent town; when it belonged to the Afghans, a duty of two and a half per cent was exacted upon all the merchandizes belonging to the caravans that passed by; the same duty was also levied at Balkh and at Bamian.

After Kilitch-Ali, khan of Khoulm, had thrown off the yoke of the Afghans, he no longer levied any tax upon travellers. A Mahomedan law forbids all persons who cannot keep a standing force of 12,000 armed men to receive any other tributes than the *zekat* and the *ghar chour*; and consequently does not permit them to tax travellers.

The son of Kilitch-Ali, whose religious scruples were less than his father's, re-established the duties. He died about three years since.

It is said that five rivers unite at Khoulm and form a cascade. The Khoulm river falls into the Amou. I have been assured that the city of Khoulm, properly so called, has been entirely destroyed, and that the town now bearing that name is the one formerly called Tachkourghan, about sixty five verstes from Balkh.

It is a day's journey from Khoulm to the fort of the Aïbek. The road lies along the river of Khoulm, which rises in the country of the Douab, at the distance of about four day's journey. The banks of this river are covered with fields and gardens.

A river rises in the country of Feizabad, which falls into the Khoulm near Aïbek.

The distance from Aïbek to the Douab is reckoned at fifty-six verstes; from Aïbek begins the magnificent valley of Arizandan, full of gardens; and eleven verstes farther is the town of Serbagh.

After a journey of twelve verstes from Eiba, we arrive in Ghourram; a country filled with villages, and very thickly peopled. By following the source of the Khoulm river, the road lies through a valley, which becomes very narrow at fifteen verstes from Ghourram, near Roui; close to this village the road turns to the left, to Douab, at the distance of about forty verstes.

Here it is necessary to cross the mountain of Carakoutal, which

occupies half a day. From this several small fortresses, or villages, surrounded with water, are passed; and the inhabitants furnish provisions to the caravans. These castles are known by the name of *Mader.* Eight verstes farther are other fortified villages, called Kameder, and surrounded by fields and vineyards. They are supplied with water by the sources of the Enden, lying just to the south of these forts. Half a day's march from Kameder brings the travellers to Saikan; after having crossed a very high mountain called Nalifarch. At twenty verstes from Saikan rises the mountain of Agrabad; the fortress of the same name lies at its base. This country is rich and well cultivated, possessing mines of copper, silver, and gold. The shepherd there mounts guard; that is to say, all the inhabitants are soldiers; in spite of which, they have been unable to maintain their independence, for the fort has successively been subject to the shah of Afghanistan, and the khans of Koulm, shewing the possessions of the latter to be sometimes of great extent.

Beyond Agrabad there are some small hills, and after passing them, and travelling 20 verstes, we reach Bamian, a very ancient city, containing about 20,000 inhabitants, and surrounded by numerous villages. In the neighbourhood are many rivers, and grottoes, containing sculptured figures; and on the summit of a neighbouring mountain, there are two statues of prodigious magnitude.

I was assured each of them was 20 toises in height, and a Hindoo told me one of them was a representation of their god Rama. These colossal statues have long been celebrated in Europe, and are still in existence. A Cashmerian told me gravely that the shah Merdan (probably the one buried between Balkh and Khoulm), had killed a dragon that had long inhabited the summit of one of the Bamian hills, and that the tears which fell from the eyes of the monster gave rise to the streams which have ever since watered Bamian.

The country is defended by 56 forts. A ruined town, called Mouja, or Mija, lies a day's journey to the north of Bamian.* At three verstes from Bamian the river of the same name flows towards the east. The fort of Toptchi is 2 verstes farther on. At this place is crossed the Choutour-Gherdan, the highest mountain between Balkh and Caboul.

The traveller then reaches Kalou, a fort in the midst of mountains, and containing about 200 houses; nine verstes farther he passes the fort of Hadjihab. He then meets with a mountain and a village, whose name is apparently Arabic, containing only about 40 houses.

* The city of Bamian was destroyed in 1221 by the Mongols, who massacred all the inhabitants; for this reason they gave this city the name of "dwelling of sadness."

It is afterwards necessary to travel 40 verstes, through a mountainous country, to reach the three forts of Bikala, or Gherdan-Divani; after half a day's journey, through a gently undulating country, the sources of the Ser-tchechmeh* are attained. They form a large basin, and the oriental travellers, who are all lovers of the marvellous, record that it is inhabited by miraculous fishes, with pearls in their noses, and which occasion the death of any person attempting to catch them. This is the real frontier of Afghanistan; Caboul is at the distance of nine *farsahks*, or about seventy verstes.

This route was communicated to me by a merchant, who had travelled at least thirty times from Bokhara to Caboul; it shews the distance from Balkh to this last town to be 392 verstes, and it takes the caravans twelve days to perform the journey. The Ouzbeks extend along this route beyond Bamian. The mountainous country just before reaching Gherdan-Divani is inhabited by Kezareh; and after passing this fortress the country of the Afghans commences.

I shall only detain the reader by a few words regarding the princes of Afghanistan. Kamran, governor of Herat, is the son of Mahmoud Shah; this latter was king of the country and had a vizier named Fatih-khan, a man belonging to one of the principal families, and had seventeen brothers, the eldest of whom Mehemed-Azim-khan was governor of Cashmere.

Kamran, jealous of the power of his vizier, induced him to come to Herat, and then put him to death. This atrocious action, which took place in 1819, was the signal of a general revolt in favour of the family of the vizier.

Mahmoud, forced to fly from Caboul, took refuge at Herat, having there established a state independent of Afghanistan. Mehemed-Azim-khan hastened to Caboul, installed himself there as prime vizier, and left nothing but the empty title of shah to a relation of Mahmoud-khan.

Perhaps the English are not altogether ignorant of these internal dissensions, which greatly weaken Afghanistan; on the other hand, its inhabitants, divided into parties, might easily fall into the hands of the shah of Persia, and under him become a formidable and powerful neighbour to Hindoostan.†

* In Persian Sir-aheshma or head of the springs.—*Translator.*

† It is singular that two of the members of General Yermaloff's mission should have almost immediately on his return been despatched into Tartary; General Nigirey a Greek and Turkish interpreter to Bokhara; also Captain (now general) Mouravieff to Khiva, who both point out this as a route by which the British in India might be threatened, if not attacked.—*Translator.*

The Seiks took advantage of the absence of Mehemed-Azim-khan to possess themselves of Cashmere, and this gallant people now reign in the beautiful valley of Sirinaghor.

The route usually pursued from Bokhara, to the city of Herat, containing about 4000 houses, passes by Kirki upon the Amou and by Ankoi. The country along this route is only cultivated to the distance of twenty-five verstes from Bokhara. The steppe there commences, in which the Kirghiz who accompanied us graze their camels.

After having travelled about 150 verstes, we passed Carchi on the left, and arrived at Kirki. The principal routes from the Amou to Herat pass by this place, and Tchardjoui: double the extents of sandy plain is crossed by taking the road from Tchardjoui to Mawri, or Meer, as in going by Ankoi and Kirki, a small fort, containing 100 houses, and surrounded by a wall with battlements and a ditch.

It is said that the Amou at this spot is more than 200 toises broad, and four or five deep; its banks are rocky, very steep, and about three or four toises high.

Ankoi is a large and independent town, containing about 4000 houses, inhabited by a small number of Ouzbeks and few Tadjiks, and a great many Arabs.

A small river runs by this city; it dries up in the summer, and the inhabitants are obliged to dig wells to procure water. Ankoi is about 100 verstes from Balkh, and 120 from Kirki. From Ankoi to Meimaneh the distance is about eighty verstes. There are a few villages in this road, Meimaneh is a town containing about 1000 houses, and inhabited by Ouzbeks, who resume their wandering habits during the summer season; they are confirmed robbers, pillaging the caravans; and are frequently at war with their neighbours, make incursions into Khorassan, and carrying their prisoners to the slave market at Bokhara.

Beyond Meimaneh and as far as Herat, the country is mountainous; but contains some roads practicable for artillery. From Meimaneh they count about sixty verstes, to Mourghab, a river six toises wide, whose banks are rocky. It is only on the banks of this river that some willow and poplar trees are ever found; on all the rest of the route there are nothing but bushes and pistachio trees, the latter in great abundance.

The Eimaks and the Ialountouches wander among these mountains, and along the side of the Mourghab; they are Mahomedans of the Sunnie sect, and speak Persian; their features more resemble those of the Tartars than the Ouzbeks; they inhabit about 3000 felt tents, or kibitkas, and are greatly addicted to pillage. If a small caravan has occasion to pass through this country, it is necessary to obtain the protection of one

of the chiefs, and he will then accompany the travellers, and serve them both as a guide and protector. About 30 verstes beyond the Mourghab, the route passes to the left of Mawroutchak, a town about 180 verstes from Mawri. From the banks of the Mourghab to Herat is only fifty verstes; according to the distances laid down in this route Herat is 310 verstes from Kirki.

Among the people inhabiting the neighbourhood of Bokhara, of whom I have spoken, it is possible there are some unknown, in which case I shall have attained my object, if I have contributed any thing to the geographical information, though not complete, to that already possessed, concerning these distant countries.

V.—*On the advancement of Geological Science in India.—By Captain* J. Campbell, *Assistant Surveyor General.*

In the study of the fossiliferous and stratified formations of Europe, considerable progress has been made of late years; but, eclipsed by this fascinating employment, the study of the primary rocks has been almost quite neglected. Dr. Boase remarks* "that, with the exception of Dr. "Macculloch, no geologist of note, in this country, has published any "minute, and descriptive details concerning the primary rocks; all "have been absorbed in the pursuit of the wonderful and fascinating "knowledge unfolded by the fossiliferous strata." The same author remarks that Professor Sedgwick has pointed out the necessity of attention to the study of the primary rocks, and that De La Beche is engaged in the examination of Devonshire. The Islands of Great Britain afford but few opportunities for the study of primary geology, the tracts are few and confined, and it may be even doubted if there is any formation of true granite, or formation in which granite prevails. Even in the rest of Europe, where the primary rocks prevail, the climate impedes, in a great measure, any proper examination. In the absence of a sufficient collection of facts, on which to base a theory, the consequence has been, that authors have promulgated various conflicting systems. One supposes the stratified primary rocks to have been formed by aqueous action from the debris of the unstratified rocks; another, that the stratified primary rocks are of aqueous origin, and of prior formation to the unstratified, by which they have been metamorphosed and indurated. And lately Dr. Boase produces plausible evidence of both stratified, and unstratified being of contemporaneous origin.

* Treatise on Primary Geology, 1834.

The peninsula of India presents a vast field for the study in question, where the formations, of enormous magnitude, extend sometimes for 50 miles, presenting to view the same kind of rock, until its peculiarities and varieties can no longer be overlooked. Compared with this vast field, the primary formations of Great Britain and even of Europe sink into insignificance, and we require nothing but energy and application, to collect the necessary knowledge, and possibly to unravel the law by which the formation has been aggregated. Towards the point of the peninsula, it appears that granite is the prevailing rock, without any kind of schist or stratified rock to conceal it from our view. As we advance northward, we find the surface clothed with schists, limestones, and trappean rocks; and, possibly, to the extreme north, the secondary rocks may prevail, indeed we know them to be fossiliferous. But of this vast continent, we know comparatively little. With the exception of a very few, but excellent, papers, giving minute descriptions of small patches, we have no data to turn to. We hear of mines of the common metals, and of diamond mines, &c. but generally the mineralogy has been entirely neglected. We know nothing of the probable metallic resources of the country; and of the metals rare and scarce in Europe, we have not once any mention, though I have reason to believe that titanium exists in great profusion, and possibly many others of the same kind. Because these minerals are almost unknown in Europe, it is no reason that they may not be brought into use in the economy of the arts, if we can produce them in sufficient quantities; but to do this, we must attend to the aids which chemistry affords us.

The complaint of want of geological description, is not, however, confined to India alone. Dr. Boase remarks, " In most of the lately pub" lished geological accounts of countries, we look in vain for details con" cerning primary rocks: we sometimes, indeed, hear that such, and such, " a district consists of granite, but cannot collect any information con" cerning its composition, or the manner in which its varieties are asso" ciated together. We are left quite in the dark as to the nature of this " kind of rock: for the various kinds which may come under the desig" nation of granite are not only exceedingly numerous, but have very " frequently no resemblance whatever to the common variety so uni" versally known by the name granite."

For want of the necessary details alluded to by Dr. Boase, much of the information which has been published, descriptive of India, is of little use. We are told that gneiss abounds in Ceylon, but I believe, it will be found that gneiss is as rare there, as in South India. Dr. Benza has asserted that hornblende slate is common in Salem; he pro-

bably made use of the term in its generic sense, following Dr. Macculloch; but the truth is, that hornblende slate is almost unknown in the district of Salem: but had a description of the mineral been appended, we should have been led into no mistake.* Observers therefore should in future be careful to append mineralogical descriptions of the rocks to which they allude, or at least to make accurate references to mineralogical works, where the description of the characters agree. An attempt is sometimes made to shew that this attention to mineralogical minutiæ is not necessary, or to assert that the name of a mineral or rock, sometimes depends on its geological position; but this can never stand good: we cannot make a sheep into a horse, by putting it into a stable; and many cultivators of science may be sceptical on what are called "the principles of geology," or even deny the dogmas of theorists altogether. Dr. Boase remarks "If a "rock be designated according to its geological relations, its name "must be liable to change, because the principles of the science are "not, as yet, permanently established: besides, on this plan, in the "examination of countries previously unexplored, too much depends "on the correct judgment of the observer: but when a rock acquires a "name, from the nature of its composition, whether purely mineralogical "or blended with organic remains, then this part of the science becomes "perfectly descriptive, like the other branches of natural history; and "much curious and accurate information may then be expected from "travellers, who are not accomplished geologists."

Another common error with observers, is the application of the mineralogical name of a rock, to many of the varieties which are intermediate between it and some other mineral: this should carefully be avoided, and the typical specimens of the rock, having been once described, its varieties when mentioned should be named "varieties."

Another error is the abuse of the term "decomposition"—every rock which is soft or friable, is called decomposed, very often without the slightest proof. The chalk of England is soft enough, but not I believe considered generally as decomposed. It is common to call the Indian cotton or regur soil, "decomposed" from trap rocks. It resembles in some measure the lias clay of Dorsetshire, as far as my memory can carry me, but I believe the lias of England was never called decomposed. It is common in India to find fissile, friable, gneiss embedding round blocks of granite, and this gneiss has been termed "decom-

* I am concerned to hear, that this talented officer, Dr. Benza, who must be considered as having led the way, in first drawing attention to the geological examination of the South India, is now no more.

posed." It might have disintegrated in structure, but decomposition is impossible, because that would have destroyed the fissile structure. Disintegration, and decomposition, are two very different operations—the one mechanical, the other chemical. An instance of disintegration without decomposition is seen in the masses of quartz rock in India, which are always disintegrated, but never decomposed. In India, a piece of quartz larger than the cube of one inch can never be found without cracks, but it never presents any appearance of decomposition. If we heat a piece of glass, and plunge it in cold water it falls to powder or cracks to pieces, it is disintegrated, but not decomposed. Each particle is still a silicate of soda. In the same way most crystalline particles of disintegrated rocks will be found to have a porphyritic or a granular, aggregated structure.

In collecting information on Indian geology, the greatest difficulty appears to be, that the number of people, who have time and opportunities for the pursuit, are very few; but if every one who chooses to attend to the subject, would apply himself, to compile accurate descriptions of the part of the country, adjacent to their stations, we should soon have a valuable collection of the geology of isolated spots, which those who are employed by Government in these scientific pursuits could soon and easily connect together. In the furtherance of this end, a geological society would be of the utmost advantage—they would receive and assist in the discussion of such information, compare specimens, have chemical examinations made, and afford that information and directions to tyros which no printed work on the subject could give,—and particularly any individual of the society who has had the advantage of studying the science practically in Europe, could then afford the most valuable information, in identifying minerals with those of Europe.*

In the study of the primary rocks, we cannot advance one step without the aid of mineralogy, but this science unfortunately is still in its infancy, and even the principles on which it is to be based are not yet agreed on. Mohs, in his system, considers the crystalline form alone, and rejects all minerals which are amorphous. Dr. Thomson,

* This Journal is published by a Society, of the prototype of which it was declared by Sir William Jones that " the bounds of its investigation will be the geographical limits of Asia; and within these limits its enquiries will be extended to whatever is performed by man or *produced by Nature.*" The sub-division of scientific labour does not seem called for here as in Europe, where there are so many labourers in the field; so that a Society for the cultivation of each science is not desirable; and the Meetings of the Madras Literary Society may be made the place of reunion for all geologists, and its already large mineralogical cabinet the receptacle for specimens. Our correspondent is reminded that the Society will be thankful for specimens illustrative of his remarks, which are usually transmitted by Authors.—*Editor.*

in his valuable work of 1836, shews that the chemical composition is the best basis on which to classify minerals, and he gives the component parts of nearly 500, many of which were analysed in his own laboratory. In the elementary state of our knowledge on this subject, it is not to be wondered at, that many discrepancies occur. Klaproth gives an analysis of hornblende, by which he makes it ferruginous, containing thirty-three per cent of iron, and only three of magnesia, but Dr. Thomson's hornblende is magnesian, containing thirteen per cent of magnesia. There is little doubt, but that the two specimens must differ much in appearance, and we may therefore avoid the mistakes, which would be produced by preserving typical specimens of the minerals to which we apply a name.

Mineralogy considers only single minerals, and compound rocks composed of these minerals are therefore excluded from the science. This subject, a sort of " rockology," might be considered a science of itself, but we are destitute, almost entirely, of any information on the subject. Dr. Macculloch is the only one who has given it sufficient attention. His work " On Rocks" of 1821, however, has many objections, and although very useful, a fresh work is very much wanted. The nomenclature also requires complete revision to prevent the absurd contradictions that writers have fallen into. We find *eurite* defined by the best authorities as " felsphatic granite containing crystals of felspar,"—" a granite composed principally of felspar, finely granular or nearly compact," —" composed principally of compact felspar"—as being another term for " compact felspar." Chert is called " hornstone"—" indurated lime stone"—" a modification of silicious earth"—" Paris burr stone"— " a cavernous silicious rock." Hornstone is, " flinty slate without the slaty fracture"—"silicious schist"—"strongly resembles basalt."—Diallage rock is "diallage and saussurite" "diallage and felspar." Saussurite is " hard silicious serpentine"—" jade or anestone"—" nephite," and so forth : the names being applied at the fancy of the observer, until they may be shewn to mean literally nothing. The multiplication of *names* I consider to have caused the greatest injury to the science, and I conceive them to be by no means necessary, for by combining the generic term for a mineral, with other terms, denoting the structure &c., I think we may in great measure avoid their use without being misunderstood. As an example we may take a single mineral " hornblende ;" then we have "*crystalline* hornblende," or aggregated in large crystals; "*granular* hornblende ;" " compact hornblende" (if such a rock be found); " *granitic* hornblende."—Hornblende rock or black granite,—" hornblende porphyry."—Hornblende in grains embedded in a paste of felspar, the porphyritic sienite of Jameson, " schistous hornblende porphyry."— Hornblende slate, " foliated hornblende." Hornblende in scales (if such

a rock be found), lamallan or schistous hornblende, an homogenous rock like argillaceous slate. A term for greenstones might be easily found, to denote the partial admixture or combination of the structure of the hornblende porphyry, without miscalling *black stones, green stones*. The term schistous, too, has been most sadly ill used, so that it is difficult to say what it means. If we take argillaceous schist as a type, it means a rock homogenous in structure or in the composition of its parts, which has the property of *drawing* into laminæ. Then we have no other kind of schist, but granite in India, and quartz rock in Norway, which Boase (page 79) tells us "separates into very large plates, several feet in length, and only a few inches in thickness like marble tables." Schistous hornblende will be unknown, and mica or common talc may be considered schistous. Gneiss is scaly in structure, in the same way that mica slate is—to this structure the term "foliated" might be applied. The term "porphyry or porphyritic" might be used as Dr. Macculloch defines it, "crystals of one mineral embedded in a continuous mass of another." We might then say hornblende in felspar porphyry—and dropping the proposition "hornblende felspar porphyry"—then we have "red in white felspar porphyry"—"quartz felspar porphyry"—"felspar quartz porphyry," or crystals of felspar embedded in a paste of compact quartz—all of which are found in India.

For the last two years, I have been engaged in a geological and mineralogical examination of the Salem district, and I find many discrepancies with the theories of European geology, which it will require much labour and assistance to clear up. In Dr. Boase's work, I find many points of agreement between the geology of Cornwall, and Dr. Macculloch's description of the Scottish Isles, with that of India, which are therefore quite at variance with the prevailing system. In the pursuit of my object, I have examined a tract of country in a triangular shape, included between Trichinopoly, Bangalore and Vellore, of which the district of Salem alone contains 7,000 square miles, equal to one-sixth of the area of Great Britain. In this tract I find so many new minerals, that I have not yet had time to examine them all, and perhaps it may be impossible for a single individual to make all the chemical analysis required. I find that hornblendic granite prevails over all this tract, that it forms a substratum at depths more or less under the surface, the rivers cutting their beds down to this rock. It occurs above the surface generally in rounded masses, heaped together, the rounded form of which has been generally attributed to decomposition, but which is not the case, the shape being original; in which way it is found embedded in friable gneiss, or kaolin earth, which fill the interstices between the blocks, and are washed out on exposure to the weather. Black granite (hornblende rock or primary greenstone),

and also trap, are found in the same way. The hollow of the valleys between the ridges of granite are filled with irregular beds, of generally friable rocks of pegmatite, porphyries, hornblende slates, quartz rock, of which the porphyritic is the prevailing structure. The surface of these beds is singularly level, and is covered generally with soil formed from the disintegrated, and decomposed rock. Micaceous granite is very scarce, or occurs only as a variety of the hornblendic gneiss, as a formation, is unknown, and occurs either embedded in the granite or as filling the interstices between its blocks. What has been called gneiss, is hornblendic granite with a concentric lamellar structure, which is a prevailing structure in the granite formation. The formation of which the Palicondah hill is a type, called sienite by Dr. Benza, is a common variety of granite, it forms the hills of Amboor, of Congoondy, and the hills between the Cauvery, and Collegaul in Coimbatore. It is felspathic, and yields easily to the decomposing power of the weather; it has no cleavage, and contains generally much mica, in veins or patches, and trap dykes prevail in association with it. It is characterized by its appearance, which is that of a craggy granitic mass, covered nearly to its summit by a conical heap of large grained reddish gravel. A spheroidal or concentric lamellar structure is common in the masses of globular trap, which causes them to peel in pieces like bits of a rusty shell; this structure is original, and is in no way affected by the action of the weather. The hills and masses of black granite and trap occur as portions of the granitic formation, and can in no way be considered as accidental concretional varieties. Masses of hornblende felspar porphyry occur embedded in granite, proving thereby their *prior origin.* Argillaceous soils in Europe are generally attributed to diluvial or alluvial action, but in India they also occur as original primary formations, connected by veins with the subjacent rocks, and embedding masses of granite in situ, as shewn by veins of quartz intersecting both rock and matrix. The formation of this kind, prevailing at Bangalore, which may be called the Bangalore clay, is an immense and extensive tract of an indurated argillaceous sandstone, which something resembles (as I am informed by Mr. Burr) the new red sandstone of England: it lays immediately upon the subjacent granite, into which it graduates. I have omitted to mention, that basalt also occurs in hornblendic granite, not as dykes, or veins, but as an integral component part of the rock, and in what may be called "lenticular" veins in the middle of the blocks. It will be easily seen how irreconcilable some of these observations are with prevailing theories, and, it is to be hoped, that we may, in future, find theories laid on the shelf a little, and allowed to take care of themselves, while observers will confine themselves to a minute, and accurate examination, and description of nature. I cannot close these

remarks, without acknowledging the great assistance I have received in these labours from Dr. W. Gilchrist, of Hoonsoor, and regretting that his state of health has prevented his making public his own observations on that part of the country. To Mr. W. Burr also I am indebted for several valuable hints, which his great practical knowledge of the science in England have enabled him to offer in a late conversation.

Since the above remarks were composed, the 25th No. of the Journal has come to hand, with the Editor's remarks on some errors of Dr. Benza's which I have pointed out. It was by no means my intention to point out, or to prove, the errors of any particular individual, but to shew the disadvantages arising from neglecting the chemical composition of a mineral. To shew this practically, I selected those errors committed by Dr. Benza, whose well known practical information, might be supposed to preserve him from such mistakes. As it would weaken the force of my argument to allow that the rock in question is so plainly not hornblende, I must remark, that my specimens which are broken from the basement of the pillars of the old durbar, would defy the most experienced mineralogist to say what the composition of the rock is. The colour is exactly the same as hornblende rock, the fracture is granular, the structure granitic, and it in no way resembles any variety of steatite. On referring to No. 12 of the Journal, page 13, it will be seen that Dr. Benza by no means examined the rock carelessly, for he most minutely and correctly describes the character of the *fracture* of the rock, and I must confess, that the only character of the rock which led me to guess it was not hornblende, was its brittleness, while toughness is a characteristic of all hornblende rocks.

I was not aware when I pointed out the mistake about the rock, that Lieutenant Newbold has anticipated me in the remark. The Editor in his remarks affords an instance of the incorrect manner in which mineral names are sometimes applied. He remarks that the rock is plainly a species of steatite. Now, some of the characters of steatite are softness—is easily scratched, yields to the nail, feels greasy, is pulverized with difficulty, and contains little iron; while the rock in question possesses *opposite* characters to every one of those enumerated. Regarding the eurite, I must allow that I chose a bad example; but from the tenor of the former remarks, it will be easily seen that the point is not worth contending. In the third remark about the silicious schist, the Editor affords an opportunity of shewing the disadvantages of not defining mineralogical characters. Granite in India is often schistous; it is silicious, therefore it is silicious schist. If its granitic character is advanced, we will take the lamellar quartz rock of Norway, alluded to before. This then is a silicious schist. But, the being *silicious* cannot be considered a distinguishing character of any mineral; for there is

hardly any rock which does not contain more silex than any thing else. Among the conflicting definitions of writers, it will be easily seen that the term silicious schist or flinty slate is intended to distinguish a tough and hard silicious variety of argillaceous slate, and therefore it will be a silicious schistous rock, containing alumina and iron, while hornstone is almost pure silex. The rock which Dr. Benza calls silicious schist, is almost pure silex, is not at all schistous, contains no iron, and no alumina, and instead of being dark coloured, Dr. Benza himself—Journal 12, page 20—compares it with the *eurite* of Pallicondah hill. The schistous character alluded to by the Editor in his remarks arises from the smallness of the specimen. The rock is massive, and in beds of irregular thickness embedded in friable gneiss, as Dr. Benza correctly describes them; but the masses are divided by a series of irregular joints, which sometimes meet at an angle of about 60 degrees, and it is the flat surfaces produced by these joints that have been mistaken for a schistous structure. This separation by joints, dividing the most friable rocks into flat surfaces, as smooth as if cut by a knife, the planes of which divisions are at irregular angles with each other, is a peculiarity in Indian rocks which I have neglected to allude to, and have not space to describe, but which I have never seen alluded to by observers.*

VI.—*Sixth Report of progress made in the Examination of the* MACKENZIE MSS., *with an AbstractAccount of the Works examined.—By the Rev.* WILLIAM TAYLOR. (*Continued from last No.*)

A.—TAMIL.

a. Palm-leaf manuscripts.

1. *Brahmóttara-cándam*—the concluding section of the *Brahma-puranam*, No. 10—Countermark 16.

Invocation to gods, and poets. The subject of this *purana* was delivered by *Vyasa* to *Suta*, and by the latter to the *rishis* in the *Naimisara-vanam*. Some notice of that *vanam*. At the request of the *rishis* the said *Suta* narrated a variety of matters connected with the *Saiva* system. 1.—The five letters. These are a symbol of the deity; securing the greatest benefits from the repetition of the formule. Illustrated from the story of a king of *Mat'hura*. 2.—The excellency of *Saiva* shrines. Illustrated by the story of a king of *Ayodhya*, who was

* See note at the end of this Journal.—EDITOR.

driven from his throne, and caused to become a *rácshasa*. The legend of *Gokernam* is included, as relating to that king, who went thither, and was there relieved of his *Brahma-hatti*, or afflictive visitation. 3.—The excellency of the *Siva-rátri*, or night of *Siva*. Illustrated by a story; the sequel being, that a *Brahman*-woman committed the heinous crime of killing a calf, and eating its flesh. Dying from the effects, she went to the lower world, and returning was born as a *Chandála*. In this state she suffered great distress from want of food, and going to *Gokernam*, when the place was visited by pilgrims at the festival of *Siva-rátri* she cried aloud for food. Some one put a *vilva* leaf into her hand, and bid her eat it. To her surprise an image appeared in her hand, which she worshipped; and, by the merit of this homage, on the *Siva-rátri* her form was changed, and she was taken to *Cailasa*. 4.—The virtue of paying homage to the emblem of *Siva*, on the *Siva-rátri*. Marvellous effects are related; such as a dog, killed at that time, being born as a king; a dove that had taken refuge in a fane, being killed by a vulture, at that time was re-born as a king's daughter. Other similar details. 5.—The excellency of the *Sani-pradosha*, or certain especial homage on Saturday, of only occasional recurrence. Illustrated by a story of *Chandra-sena*, king of Ougein, who was so exemplary in the worship of *Siva*, that his fame, as a devotee, spread to other countries, the kings of which considered that such a one could never be conquered by them; in consequence of which they cultivated friendly relations, and always took leave of him with great attention and deference. 6.—*Pradosha mahatmya*, the value of the first part of the night. A king assaulted by enemies left the act of homage half unperformed, and went forth against them. He was defeated: his wife fled, and was delivered of a child on the bank of a river. These, and following calamities, proceeded from the negligence of the said act of homage. 7.—The same subject continued. The aforesaid child recovered its father's kingdom, attended to all requisite duties, and conquered the kings of many other countries. 8.—The excellence of *Soma-varam*, or Monday. *Chitra Verma* had a daughter named *Simanti* born as the result of penance; but the astrologers declared that, at an early age, she would lose her husband by death, which took place. A visit to *Yama's* world; a return thence; and subsequent prosperity are contained in the legend. Its purpose is to enforce the value of homage paid on Mondays, at a shrine of *Siva*. 9.—A continuance of the same subject. Further illustration by a tale of a *Brahman* of the *Viderbha* country. He had two sons who went to the king of that country to seek a livelihood, when the said king pointed out to them *Simantri*

a neighbouring queen of **Nigarsha-desam*, advising one of the two to put on woman's attire. They accordingly went, one being so disguised, but *Simantri*, discerning the fraud, pronounced the doom of always continuing in that way degraded. The other son returned; and the father becoming acquainted with what had occurred went to the king of *Viderbha-dêsam*, and reproached him for teaching such a fraud, who referred the matter to his counsellors. These taking into consideration that the *Brahman* had always been an exemplary worshipper of *Siva* on Mondays, advised him to perform special acts of homage, which he did, and by the favour of *Siva* had another son born to him, whence the efficacy of homage to *Siva* on Monday, is deduced by inference. 10.—The excellence of the *Siva-yogya* (or ascetic *Saiva*-devotion). A Brahman, being wealthy, allowed himself the use of animal food, and irregular intercourse, for which he was reproved, and set right by a *Siva-yogi* (or *Saiva* ascetic). At a subsequent period the Brahman dying became a fœtus in the womb of a queen; and great difficulty and agony occurring at the time of birth, the king and queen went out into a forest, or wilderness, where a dead child was born; but a *Siva-yogi*, coming by, put *Vib'huti* (or sacred ashes) on the child; which opened its eyes, and was delivered alive to the mother, who greatly rejoiced. The ascetic announced that the child would be a powerful king; and, wishing prosperity, departed. Hence the estimation in which a *Saiva* ascetic ought to be held is rendered apparent. 11.—The instruction of *Bhadrabahu*, the said child. It relates to the teaching of the child warlike exercises, and accomplishments. 12.—This section relates some exploits of the said young man, and his receiving instruction in some *mantras* from *Rishabha-yogi*. 13.—The marriage of *Bhadrabahu*. 14.—Has a reference to section 9, the said *Sumantri*, in another birth, being it seems the bride of *Bhadrabahu* in this one. 15.—The excellence of the *Vib'huti* or *Saiva* ashes. 16.—The mode of preparing those ashes, and of using them; whereby all sins are removed. 17.—The tale of a *Vedar* or savage hunter, who obtained beatification by the worship of *Siva*, whence the excellence of that worship is inferentially deduced. 18.—The section of *Uma-isvara*. It refers to the death of a *Brahman*, by the bite of a serpent, and to certain directions given by a sage, as to the worship of the said form of *Siva* and *Parvati*. 19.—Story of *Sarati* a *Brahman* female (on the principle of the metempsychosis) who was falsely accused, and delivered by the interposition of a celestial voice. Her discovery of her husband at *Gokernam*, at the *Siva-rátri* festival, and great happiness afterwards. 20.—Excellence of the *rudracsha* beads. A king obtained *Cailasa* by

* Sanscrit *Nishada*.

wearing them. The story of a monkey re-born as the son of a minister of state. 21.—The excellence of the *Rudra-mantra.* Illustrated by a story relative to *Cashmir.* 22.—The merit of hearing this *puranam.* The sins of such will be removed; they will obtain all that they desire; will escape from *Yama ;* and obtain many other advantages. A description of the torments of *Yama's* world, is given, from the narrative of a *Pauranica-Brahman.* These punishments are of gross crimes; and the fear of that punishment is obviated by hearing this *puranam* recited.

Remark.—It has more than once met my observation that degrading, and depraving, as is very much the tendency in all *Hindu* books, those of the *ultra-saiva* kind are peculiarly so. A very brief indication of the contents of the preceding manuscript is given ; a full translation would illustrate the above remark ; further detail on which point is needless. The book is complete ; and very recent in appearance : it remains quite uninjured. It is stated to be a production of *Vara-tunga Rama Pandiyan ;* to be understood of a poetical version, in Tamil, ascribed, or dedicated, to him. From that poetical version, this one in plain prose, was made by some writer unknown. The original Sanscrit is said to be the concluding book, or portion, of the *Brahma-puranam.*

Note.—It it entered in Des. Catal. vol. I. p. 166. art. xi. as "a translation of a division of the *Skanda Purana.*" The like definition of two Sanscrit copies, bearing the same title is given at p. 51. The *Scanda puranam,* has much referred to it, generally, which is of doubtful origin.—I would not determine ; but am told that the aforesaid M.S. is part of the *Brahma-puranam* ; and the title which it bears within itself, as well as on the label, certainly implies the same.

2. *Tirupachur St'hala puranam,* legend of Tripassore, No. 39—Countermark 43.

This is a legend of a small fane, written in verse of the *Viruttam* kind, and consisting of 595 stanzas, divided into seventeen sections ; each section containing a tale as usual ; but not of any consequence. The situation is 32 miles W. of Madras. The outer-workmanship of the shrine, I have remarked to be superior, and with an appearance of some antiquity. There are also remains around the place, at some small distance, in a different style of architecture from any thing now customary. The fort caused this place to become of consequence in the modern wars, and convulsions, of the peninsula.

Note.—It is briefly entered in Des. Catal. vol. i. p. 173. art. 28.

3. *Nita Venpa*, a moral poem, No. 177—Countermark 192.

The *Venpa* is a stanza of peculiar, and elegant, structure. Out of one hundred of such stanzas, this manuscript contains seventy one. The following is a brief indication as to subject. Those who are great are to be cultivated, and honoured; by doing which advantages are acquired: the ignoble or the mean, are not to be attended to, as nothing can be obtained from them, but trifles, or degradation. Illustration; if any one look into the den of a lion he will get the ivory tusks of elephants; but if he search the den of a jackal, he will only find an ass's skin, or sheep's bones. Things even change their character according to usage; as an osier-bamboo may be wound into the structure of a kingly coronet; or, if left to grow old, may become a rope dancer's, or mountebank's pole.

Note.—The book appears a little old, and is slightly injured by insects; though not at present seriously.

It is entered in Des. Catal. vol. i. p. 231 art. 61.

4. *Niti Venpa* (no distinguishing mark or number).

This is another copy of the above work, on very ordinary palm-leaves, without covers, or other similar mark of belonging to the collection. It has a deficiency of fourteen stanzas, and by its assistance the chasm in the other copy may be partially, though not wholly, filled up. To edit the work satisfactorily a third copy would be required.

Nyána sampantar Puránam, or legend of *Sampantar*, No 44—Countermark 88.

This production seems to have formed part of a larger book. The leaves are numbered from 150 to 256, and a single leaf, a fragment, of another subject, follows. The book contains 1253 stanzas, on the life and actions of *Sampantar*, the famous champion of the *Saivas* against the *Bauddhas* at Madura, in the time of king *Kúna Pandiyan*, afterwards named *Sundara Pandiyan*. The story has appeared in my abstract of the Madura *puranam;* and also in various preceding papers of these reports. It is needless therefore to enter on it again.

The manuscript is old; touched, to a trifling degree by insects, and otherwise injured rather more seriously by the breaking of a few leaves, by reason of decay.

Note.—It is entered in Des. Catal. vol. i. p. 203. art. 19.

6. *Niti Sára anubava trattu,* a moral poem, No. 179—Countermark 194.

This is a poem in the *Cavyam* metre, synonymous with hexameter, or heroic, measure. The general subjects are the following :—

1. The nature of mankind, or of the human species; describing their qualities, or dispositions; and the way in which they ought to walk, or to conduct themselves.

2. The way and power of virtue: time, fitness and circumstances are to be noted; and, according thereto help or beneficence, to be extended to others.

3. The nature of rectitude. If people during the whole of their life observe perfect rectitude their beatification will be assured.

4. The nature of iniquity, or the opposite of rectitude. If any one do not assist others, but rather do them harm; if any one bear false witness; if any one swear falsely to the hurt of others, such courses are the opposites of rectitude.

5. The conduct of a king. If a king do not molest his subjects, but hold an equitable sceptre, such a one will attain a high future reward.

6. The way of rectitude. A king must know the four modes of "concord, division, tribute, war;" and by means of them conduct the affairs of his kingdom.

7. The way of irregularity; some reasons are given to shew that a king ought not to associate with the bad, nor yet to molest the good: such associations, and such molestation being contrary to equity.

8. Upright and moral persons should zealously cultivate the favour of the one true God. The worship of images, or multiform gods, is throughout the work discouraged, and more or less distinctly reprobated.

9. The human body constitutionally or physically considered, with reference to its healthy state, tendency to morbid affections, or positive disease.

Note.—This manuscript is complete, and of recent copying; slightly touched by worms in one or two places; but not at present of consequence. The book seems to me rather special, and as I conjecture is the production of some of the *Jainas* of olden date. There are several such works which I have long wished to see well edited. In any such series, this poem should find a place.

It is entered in Des. Catal. vol. 1 p. 232. art. 63.

7. *Aranjesvara Venpa*, No. 182—Countermark 199.

8. Same title, No. 184—Countermark 200.

9. Ibid, No. 185—Countermark 201.

This work contains a series of illustrations of the Cural of Tiruvalluvar. The plan made use of is to quote a sententious maxim from the *Cural;* and then to prove its accuracy, by an example taken from other works of reputation: the illustration is usually practical, being of the nature of a historical or biographical, incident. The tendency of such a plan is to engraft both moral remark, or precept, and practical illustration, on the memory. If well and impartially managed such a model might be followed in other languages.

No. 182 wants 22 leaves at the beginning, the stanzas, with their prose explanation are in regular order from the 23d stanza to the 56th, but the remainder is wanting. The last leaf is greatly damaged; the others in good preservation.

No. 184 contains 75 stanzas, complete from the beginning, and the writing is then discontinued; evidently from the copyist not finishing his work. The manuscript is of recent appearance; but has been a little injured by insects, especially at the beginning.

No. 185 is complete from the beginning down to the 58th stanza; the rest is wanting, owing to some leaves having been lost. It is uninjured by insects.

Note.—These copies are entered in the Des. Catal. vol. 1. p. 245. art. 68, according to that entery there should be two other copies. These I have sought for through the collection, without finding them.

10. *Tiruvannamali-koil-kyfeyat*, account of the fane at Trinomallee, No. 221—Countermark 60.

This brief manuscript, in the former portion, is merely an epitome of several sections of the *St'hala-puranam*: narrating the stories in a very compressed form; and having especial reference to the *ammen*-shrine, which commemorates the victory of *Durga* over *Maheshasura*. Further on, there is an account of the circumstance which led to the employment of a low class of fishermen, who annually ascend the hill to light the large column of combustible matter, prepared as a *homam*, or offering by fire. They were chosen to this office, from their great ignorance,

and recklessness of character. A sort of trick is practised in the lighting the said column; so as to induce people, unacquainted with the secret, to consider it to be miraculous, because it always occurs instantaneously at the very moment when the lamps are lighted below, effected by contrivance through the said fishermen, and by signal. It is added afterwards that when *Vira Sambhuva rayer* ruled, the *Chola desam*, he enlarged the fane by various additions. About 700 years since a *Vallāla* king, said to have ruled over the *Tuluva* country, came hither, and felt a desire to live at the place; but as its sacredness forbad the doing so, he built a town at some distance, and resided there. A vile story follows of *Siva* appearing under the form of an old *Pandáram*, and acting a part very unworthy of a god; but the story, however debasing to the object of their worship seems very pleasing to his votaries, as it is found in at least three books with reference to different kings, or chiefs in various places. The *Vallāla* king afterwards accomplished great conquests. The *Rayer* dynasty subsequently made additions to this shrine. The Mahomedans, when they acquired power, manifested much complacency towards this shrine; and gave it some grants and immunities. The manuscript adds that the Honourable Company follow the like method of proceeding.

NOTE.—This document is complete. It is somewhat damaged by insects; but, as yet not seriously. There is nothing in the document of consequence; unless a complete exposure of the folly, and stupidity, as well as criminality, of idolatry be so considered. Appended is copy of an inscription taken from the wall of a building erected by *Vajranga Pandiyan* It is dated Sal. Sac. 1283 (A. D. 1361), and commemorates the gift of some land to the place by *Cumara-Campanra-udiyar*, son of *Vira Bukha-Campanra*, of the family of *Harihara-rayer*. (This *Campanra-udiyar* it will be remembered performed an office of consequence in expelling the first marauding inroad of Mahomedans from the extreme south. This inscription therefore is of some interest). The manuscript is in good preservation.

I do not find it entered in the Des. Catalogue, and it has not the usual marks of classification, though the other Nos. are not wanting.

10½ *Tiruvannamallai-guru nama-sivayi kyfeat*, or account of *Nava-sivayi*, a *Brahman* of Trinomallee, No. 248—Countermark. 101.

This a production of the class of writing heretofore more than once adverted to, in which prose is mingled with verse; the former being,

in this instance, little more than a vehicle for the latter. *Namasivayi* is represented as uttering a long train of *venpas,* a sort of brief sonnets, if I may so render the term, expressive of some supposed excellence of some particular portion of the fane, at Trinomalee, and the *ammen,* or goddess, pleased with the strain, uniformly grants every part of the requests which are made. The production exhibits the puerility of idolatry, to a striking degree. The intention, however, of the book seems to be to magnify the said *Guru,* as one extraordinarily favoured by the local *numina* of the shrine.

Note.—The document is complete in twenty palm-leaves, which are in moderately good preservation; though a little touched by insects. Two leaves are appended, containing an account of succession by hereditary descent of a *Pandáram,* of the said fane of *Trinomali:* of no importance.

The M.S. is entered in the Des. Catal. vol. 1. p. 207. art. 30.

11. *Tanjavur Candiyur-Isvara koil-sila-sassanankal,* or inscriptions on stone in the *Saiva* fane of *Candiyur,* in the kingdom of Tanjore, No. 5—Countermark 957, written within.

" The contents are thirty two inscriptions copied out in *Candiyur Tirupanturatti, Coil patti-tillistanam, Caduvuzi, Carunta pattankudi.*"

According to the number of the leaves, there are 95 palm-leaves wanting; though the number of inscriptions, that is 32, is complete; answering to the above title, written within on a blank leaf in a different hand-writting. It is therefore uncertain whether what may have preceded was taken away or lost; but some similar books in the collection render it probable that this is one section of a continued series.

No. 41. In the *Saiva* fane at *Candeyur,* dated 17th year of the rule of *Kó-raja-Cesava-Maharaja,* gift to a fane at *Satya-mangalam.*

No. 42. Dated in the 10th year of *Kopa-deva;* but the other words and letters are so evidently incomplete, and disjointed, that the inscription could not have been legible on the stone.

No. 43. Dated in the 11th year of *Kó-raja Kesari,* the name of *Tiru Candeyur* is legible; nothing else.

No. 44. Inscription on the shrine at *Tirupantirutti* of *Pushpavanesvara-svami;* name of the goddess *Savuntira nayak ammen.*

Dated Sal. Sac. 1346, in *Crodhi* year: gift by *Vijaya rayen,* of the race of *Harihara rayer* of a certain portion from the revenue arising from cultivation.

No. 45. Dated in Sal. Sac. 1336, *Manmata* year. Gift of land to the same fane, by some head-men, apparently three in number.

No. 46. Dated in the 10th year of *Korasadaipan Chola dever*; but no intelligible sense can be made out.

No. 47. Dated in the 30th year of *Kiri Konda Chola-dever*; gift of various sundries for offerings or services to a fane; the name of which cannot be made out.

No. 48. Dated in the 20th year of *Kirí Konda Kopa-Kósiya pairam dever Cholan:* gift of land to maintain a constant light in a fane of *'Adi-chandesvara.*

No. 49. Dated in Sal. Sac. 1454, a string of titles without any proper name; that of *Varadapaiyar* of *Krishnapuram* occurs, but this is perhaps that of the local god: gift of a tax on cows.

Remark.—The foregoing is merely a specimen of the contents. They are so prevailingly illegible, from deficiency of letters, as to lead to the inference, either that the said letters were defaced on the stone, or else that the characters were not understood. Considerable pains were taken with this book; without adequate result. The oldest inscriptions appear to have no *Sacai* year stated; and where the *Sacai* year is mentioned, the date is comparatively modern.

The M.S. is entered in Des. Catal. vol. 2. p. 118. art. 5.

12. *Bomma nayak kaifeyat*, account of a Poligar, No. 200—Countermark 96.

13. Same title. ,, 221 ,, 86.

The first of these documents is in the hand-writing of *Subrahmanyan*, and the other in the hand-writing of *Srinivasaiyan*, both persons being retainers of the house of *Bomma nayak*, whose chief town is herein termed *Carisapattu-vára-pùr*. The subject, and incidents, in both documents are very nearly the same; being an account of the lineage of *Bomma-nayak*. It does not date higher up than the period of *Visvanat'ha nayak* of Madura; among whose attendants the ancestor of this race was one. As the Madura ruler distrusted the people of the south he built a greatly enlarged fort; and one of the bastions was committed to the care of the said ancestor; on whom likewise was bestowed an extensive fief in land, in the neighbourhood of *Sivagangai* and Ramnad. The lineage is given, downwards; without the mention of any thing particular, until the war against Tanjore, and the capture of its capital. Subsequently the mention of marriages, and petty incidents, occur, rela-

tive to other chieftains, and especially those of Ramnad. One of this line went to Tanjore in the time of *Tuccoji*, and *Sarboji*, Mahratta rulers; and distinguished himself, much to their satisfaction, by killing a tiger in single combat. Afterwards the incidents relate to the strifes, and unsettled state of things, down to the assumption of power by the Nabob of Arcot The writers mention the existing chiefs, at the time when the documents were written; and state the desire then felt to obtain the patronage of the Honourable Company.

Remark.—Both documents are brief, and complete. They would merit to be consulted in any particular account of the unsettled, and disorderly period of the Madura government, posterior to the contested succession by *Minacshi*, and *Bangaru Trimala nayak*. This house of *Bomma nayak* subsequently met with a severe fate, after giving much trouble. I am compelled to say I think they deserved it; for by traditionary circumstances, handed down in a portion of my family, I know them to have been among the worst of the *páll'ya cárers* of their day. The incident connected with one of this race in the time of *Tirumala nayak*, has been before adverted to, in the abstract of the Madura *Virapan Ammāni* (see 4th Report).

Note —One of these copies is entered in the Des. Catal. vol. 1. p. 206, art. xxv.

14. *Divākaram*, a vocabulary, No. 64—Countermark 221.

The work which bears this title is a common and well known vocabulary of the Tamil language, in verse, on the plan of the *Amra còshu*, and *Nigandu*: though not so full. It is ascribed to *Chendal Divákaran*, a follower of *Subrahmanya*.

Of the twelve parts of which this work, when complete, consists, there is in this manuscript only about two-thirds of the first part, on the names of the gods. As regards preservation, the fragment is uninjured.

This manuscript is entered in Des. Catal. vol. 1. p. 252, art. 7. Another palm-leaf copy is mentioned; not at present in the collection.

15. *Slotra agavel*; hymnology, No. 195—Countermark 178.

A few leaves without order, or connexion, and so greatly damaged by insects, and other causes, as to be no longer coherently legible. As far as any subjects can be made out, the contents agree with the title,

indicating a poem of the easiest kind of metre, in praise of various so called deities.

It is entered in Des. Catal. vol. 1. p. 227, art. 43.

b. Manuscript books.

Manuscript book, No. 22.—Countermark 223.

Divákaram, a Tamil dictionary.

An incomplete palm-leaf copy is noticed in the preceding portion of this report. The present copy is complete, in twelve parts, it is written on strong Europe paper, with good ink, and is in perfect preservation.

Manuscript book, No. 10.—Countermark 67, *Calingatu Parani*, a poem on the conquest of *Calinga.*

This is a complete copy of the above mentioned poem; respecting which a notice from a palm-leaf M. S. was given in my fifth report. In this book the seven first sections are found, as therein stated; but the following portion is numbered on, as to verses, without break or division into sections, to the end; comprising in this last portion, three hundred and thirty stanzas, or nearly as much as the entire amount of the preceding seven sections. The palm-leaf copy appears to be the best one of the two.

Note.—This book is in good order, the ink only a little pale; but it needs no further attention. It is entered in Des. Catal. vol. 1. p. 196, art. 5, with regard to which entry it may be observed, that the leading fact of a *Chola* conquest of part of Telingana is beyond question historical; all the village records of the country containing references to it, in a way necessarily implying a foundation in fact.

Manuscript book, No. 22.—Countermark 776.

Section 1. Account of *Chitambaram.*

The paper has, in Telugu, the title of *Chitambara mahatmya;* and is found to be another copy of that portion of the contents of M.S. book, No. 1. included under the title of the local *mahatmya* or legend. It adverts to several *rishis*, and to various matters relative to appearances of *Siva*, needless to be further particularized; seeing that the

legend received full and particular attention in the abstract of the above-mentioned book in my third report.

Section 2. Tales of the four ministers of the king of *Alacápuri.*

A sufficient notice of these tales before occurred in my fourth report, from a palm-leaf manuscript.

Section 3. *Siva mata-sastra,* or the book of the *Saiva* sect.

Details of places where there are *Saiva* fanes, and mention of hierophants, and ascetics. The peculiarities of the *Saivas* are stated; as also the four distinctions under which they rank all votaries; together with notice of the rites, both simple and symbolical, which they are accustomed to perform, with regard to their emblematical figures, or images. A list is added of books, specially appertaining to the system of the *Saivas.*

REMARK.—This book, as to binding and paper, is in good preservation. The ink only is in some places faded. The latter part, so far as relates to the *Saiva* worship, is the only portion that could be considered of the slightest consequence.

Manuscript book, No. 20.—Countermark 260.

Cappal sastram, or art of navigation.

This book contains three subjects—the *Cappal-sástram*; the *Silpi-sastram*; the *pancha pacshi-sastram*: astrology predominates in the two former.

1. The *Cappal-sāstram.* There are some directions concerning the mode of building ships, and the proper time of doing so. The suitable times for sailing are stated; the observation of the stars and lunar mansions is enforced with reference to every thing; even to the dropping of an anchor, which must be only as the stars ordain; and so for the remainder.

2. The *Silpi-sastram.* Directions for laying the foundations of houses, and other buildings, and raising the superstructure. Astrology is mingled up with the other matters; and in this art is evidently of commanding influence.

3. The *Pancha-pacshi-sastram.* This is a most fanciful system. Five different species of birds are arbitrarily nominated, and certain actions, such as sleeping, walking, &c. ascribed to them. Particular

divisions of the day and night are attributed to them; and as these follow in various alternation, so different actions of the birds correspond with different periods of the day and night. Some of these actions are fortunate; some the reverse: consequently it requires both labour and skill to discover what bird rules the hour, and whether the action of the bird at the time is propitious, or adverse. If adverse, nothing must be done just then. This artificial system, I have understood, is not generally received. One more preposterous it would be difficult to imagine. This last part is incomplete.

Remark.—The book is generally in good preservation, the ink a little pale, but at present nothing further is requisite than moderate care.

Manuscript book, No. 14.—Countermark 155.

Section 1.—*Paramart'ha Guru.*

A sarcastic series of tales by *Beschi*, levelled at heathen *gurus*; and intended, at the same time, to assist in learning familiar phrases in the Tamil language. It was translated by Mr. Babington. The above copy is complete.

Section 2.—*Agastya varalāru.*

An extract from the *Cāsi Cāndam* of the *Scanda puranam*; heretofore given in an abstract of that book. Vide 5th Report.

Section 3.—*Jati-vallamai.*

A tract on differences of caste, written by *Veda Nayak*, a Christian in Colonel Mackenzie's employ.

Section 4.—*Jāti béda nūl.*

The poem of *Ulaga nát'ha*, heretofore noted (vide 4th report). The subject is, the differences, and distinctions, of castes, or tribes.

Remark.—The contents of this book are in very good preservation The different sections are entered, under distinct heads, in the Descriptive Catalogue.

B.—TELUGU.

a. Palm-leaf manuscripts.

1. *Vira bhadra vijayam,* or the triumph of *Virabhadra,* No. 69.—Countermark 321.

2. Another copy, No. 70.—Countermark 467.

Both of these manuscripts are complete copies of a poem in the *Padya-cávyam* measure, relative to the destruction of *Dacsha's* sacrifice by *Vira Bhadra,* produced by the anger of *Siva* in consequence of the death of his wife. The narrative was heretofore given in the abstract of a part of the contents of the *Bhágavatam,* rendering enlargement needless; indeed the story is popularly well known. This work is the production of *Bommana-pota raja,* or more briefly *Potaiya,* an author of considerable eminence. Both copies are in good preservation. The manuscript No. 70, has the appearance of being the oldest of the two.

Note.—One copy is entered in Des. Catal. vol. 1. p. 348. art. 68.

3. *Ramabhyudaya,* or the fortunes of *Rama,* No. 98.—Countermark 292.

This poem in the *Padya-cavyam,* is by *Ramabhadra cavi* who, by one account, is said to have flourished in the reign of *Crishna rayer.* This poem was his principal work. It contains an abstract of the general subject of the *Rāmayana.* The lamentation of *Rama* on the loss of *Sita* is, by some, considered to excel in pathos. This copy is exceedingly imperfect; many palm-leaves being wanting. What remains is in good preservation.

Note.—It is entered in the Des. Catal. vol. 1. p. 334. art. 46; and is stated to be "by *Ramabhadra-kavi* of *Uttanutta,* dedicated to *Nrisinha raja* of *Gobur.*" I do not know that there is any real discrepancy between the two accounts as to the author.

4. *Sri Calahastri-mahatyamu,* the legend of *Calahastri,* No. 76.—Countermark 22.

It is otherwise named *Yadava raya-charitra.* The contents are of the usual character, in such legends. *Siva* is said to have assumed the form of a *Jangama* ascetic, and to have related to a king of the *Ya-*

dava race, the origin of the image at this place; and the excellence of the shrine, as illustrated by various tales of devotees of *Siva,* who in consequence obtained union with his form, or beatification.

The book consists of a larger manuscript in the *Pádya-cávyam,* containing the legend which is complete; and of a smaller book containing a brief abstract in Telugu prose; being a summary of the contents of the poem. The whole is in good preservation.

NOTE.—The M.S. is entered in the Des. Catal. vol. 1. p. 277 art. 20.

5. *Vasu-charitra,* or tale of *Vasu,* No. 31.—Countermark 459.

This is a mere fragment of an elaborate and celebrated work, composed by *Bhatta Murti;* one of the eight celebrated poets at *Vijayanagarum.* It is in the *Padya-cávyam*; and is said to have been much admired, and made a model by later poets. It was written after the capture of *Vijayanagarum,* and under the patronage of *Timma raja* of *Pennaconda,* son of the ill-fated *Rama raja,* last of the *Vijayanagarum* dynasty, and elder brother of the two rulers at *Chandra giri* and Seringapatam. It should contain six *asvasas,* or sections; the genealogy of *Timma raja* being given at the commencement. The subject of the poem is a love-tale relative to *Vasa,* a king's son, and his marriage with *Giri-canyaca,* a mountain nymph, with the usual filling in of description, and metaphor.

At the beginning three leaves are broken in two, and the halves are lost, the 9th, 10th and 14th leaves are in the same condition. For the rest the first section is right. There is only about a quarter of the second section, and the entire remainder is wanting. The loss is not very material, as the poem is not scarce; but the passing off, this and many other fragments, on Colonel Mackenzie, as if complete manuscripts, certainly was a grave fault, on which it is superfluous to enlarge.

NOTE.—The book is entered in Des. Catal. vol. 1. p. 341. art. 62, but without any note of deficiency; which moreover is not usually given in the Catalogue; from the compiler of which, the deficiencies in MSS. seem to have been concealed.

6. *Retta-Matam,* or system of *Retta,* No. 108.—Countermark 493.

7. Same title,...................... No. 109.—Countermark 495.

8. Ibid,........................ No. 110.—Countermark 494.

One half of the first of these manuscripts consists of a fragment (of about 50, palm leaves) of the tale of *Svarochisa-manu,* by *Allasani*

Peddana, the famous Telugu poet (see the notice of that composition, 5th Report B. Telugu, No. 12). This fragment is old; has one or two leaves broken; and insects had begun to glue the leaves, preparatory to their work of destruction; but have been interrupted. It may be set aside previous to adverting to the other contents.

The *Retta-matam* properly consists of six sections, of which No. 108, contains five complete. It is old, two or three leaves are broken; others glued by insects; and a work of destruction was begun; though not carried on to any material extent. No. 109 has two leaves prefixed, containing praises of *Vishnu*, as *Ráma*; and there are five sections of the *Retta-matam* complete, with a few leaves of the sixth, but the remaining portion of that section is deficient. It is a comparatively recently written book: notwithstanding which, it has a leaf or two, broken, and others slightly punctured by insects. No. 110 is a small portable pocket sized book, containing selections from the astrological portions of the work, concerning eclipses, and the influences of "the nine planets." It seems to have been copied out only a few years since; and is in perfect preservation.

The introduction to the *Retta-matam*, contains some eulogy of *Vencata-rayen*, being the ruler of *Chandra-giri*; and younger brother of *Timma-raju*, of *Pennaconda*. *Ayalu-Bhascara*, being present in his court, was asked to narrate some poem, with which request he complied, by translating, from the *Hala Canada* language, the work of one named *Retta*: the leading topics of this translation are,

1. On the causes inducing the production of rain.
2. On discriminating the value of produce from the earth.
3. On divination, by signs, tokens, &c. on the *Hindu* system.
4. On augury, or divination by birds.
5. Concerning *Dhútas*, messengers, familiar spirits, or demons, supposed to reside, like hamadryads, in trees; sometimes in fanes, old houses, cross-roads, &c; and considered to have the power of speech, sometimes with visible appearance, sometimes without, and indicating good or evil to the human beings addressed. The agency of this class of supernatural machinery is frequently adverted to, in *Hindu* books.
6. Portents, or indication of clouds, as to rain.
7. Indication of rain by an aerial sound, preceding its fall (an observable phenomenon in heavy tropical rains).
8. On the qualities, or excellencies, of learning.
9. On the rainbow, or fabled bow of *Indra*.
10. On lunar haloes, as an indication of rain.
11. On the rising of the sun, and consequent effect on the wind.

12. On the origin, birth, or generation, of the human species.
13. On the pouring out, or oblation, of water, in ritual devotion.
14. On the effects, or influences, of eclipses.
15. On sudden, or unforeseen, events ; especially sudden deaths.
16. On unpropitious events, or evil results, of planetary influence.
17. The nature of opposition of planets, and results.
18. The propitious result of favour from a spiritual preceptor.
19. The influences, or powers of different years of the *Hindu* cycle.
20. On good and bad days; or those propitious, or unpropitious.

These varied contents are distributed among the several sections; not regularly, but according to the extent or quantity: for example, one complete section is occupied with the subject of rain, while other sections contain several subjects.

Remark.—Observations which I have elsewhere made as to Hindu astrology, apply I conceive, to this book, as well as to others at different times noted.

The three copies are entered in Des. Catal. vol. i. p. 356, article 1.

9. *Amukta-mâla*, a poem, No. 25.—Countermark 340.

10. Another copy, ... No. 26.—Countermark 341.

11. *Amukta-málu vyác'hyánam*, No. 27.—Countermark 342.

The two first manuscripts are copies of a very difficult poem by *Allasani Peddana*, which was written in the *padya cávyam* metre, and so abstruse that some say he himself wrote the prose explanation contained in No. 27, in order to render his poetry intelligible, even to other poets. In the early portion there is a reference to mythology of the *Vaishnava* kind, and to *pauranical* history. The lunar race is given, and by the medium of the *Tuluva* country the line of *Narasinha rayer*, and *Crishna rayer* is panegyrically narrated. The latter was the poet's patron, and has herein an epithet given him, as being the *Vira Bhadra*, who conquered the fort of *Condiviti*; also giving the credit of the work to him, by inserting his name as the author. It is then observed that the special object of the work is to narrate an account of the ascendancy of the *Vaishnava* system at *Sri-vili puttur*, in the ancient *Pandiya* country. A *Pandiyan* king of early times, being embarrassed on the subject of religious differences, assembled votaries, some of whom told him he ought to worship *Siva*, some said *Brahma*, some said *Agni*, some said *Vayu* ; and so on. Thereupon *Vishnu-Sid-*

dhar, a Brahman of *Sri-vili puttur* publicly disputed in the king's presence, with the votaries of other systems; confuted them; carried off the prize which the king had appointed as the reward of the successful disputant; and converted the king to the *Vaishnava* faith: who consequently built shrines and fanes, especially at *Sri-vili puttúr*. At a later period one named *Yamanácharyar*, of the same place, in like manner overcame in a polemical discussion, and by the *Pándiya* king of the day was rewarded very munificently. The work then adverts to the history of *Crishna*, with a profusion of poetical ornament, concerning the *Gopis*; and expatiates on the excellence of his shrine at *Vili puttur*. A remarkable story occurs: a *rácshasa* (or savage) having caught a *dási*, or female slave of the fane, purposed to kill, and eat her (another trace of cannibalism in the South of India), to which the *dási* made up her mind; but begged permission first to relate some stories. She drew on her knowledge in order to narrate the Hindu account of the origin of the world, mythology, and the like; with such marked effect, that the barbarian renounced his anthropophagy; became a convert to the *Vaishnava* system, and had his "vile body" transformed into one resplendent with lustre. Subsequently the incarnation of *Ramanuja* is stated; together with his victories, as a champion of the ultra *Vaishnava* system.

Note.—The manuscript No. 25 is rather old; the palm-leaf No. 13 is broken in two, and one half lost: for the rest the copy is complete, and without damage. No. 26 is somewhat older in appearance than the other. The 42d leaf is broken in two, but neither half lost. The last two leaves are slightly touched by insects. The copy is in all other respects complete, and without injury.

The manuscript No. 27 has four blank leaves wanting, in the fifth section; forming a chasm in the subject: the remainder is complete.

The book is of recent appearance, slightly touched by insects in a few places; but, on the whole, in good order, and preservation.

The three copies are entered in the Des. Catal. vol. 1. p. 318. arts. 3 & 4.

12. *Crishna Arjuna Samvádam*, or the discussion between *Crishna* and *Arjuna*, No. 19.—Countermark 279.

A *Gandharbha* offended *Crishna*, then ruling in *Dwaraca*, whose court is described. *Crishna* being angry, and threatening the chorister's life, it mounted a flower, as a vehicle, and speeded to *Arjuna* for protection. *Arjuna* granted the boon. *Crishna* sent messages, demanding the restoration of his servant, which *Arjuna* pertinaciously refused. The con-

sequence was entire disagreement; and preparations for war. All however ended peaceably; and on a good understanding being restored, the *Gandharbha* was allowed to proceed at pleasure, its life being spared.

Note.—The M.S. is old; a little injured at the outward edges; but not otherwise, and it is complete. It is written in the Canarese character; but the language is Telugu, in the *Padya cávyam* metre. The copy has the appearance of having been made by a person unaccustomed to Canarese writing.

The work seems to be a mere play of the imagination.

It is entered in the Des. Catal. vol. 1. p. 270. art. 11.

13. *Panduranga mahatmya*, No. 39.—Countermark 287.

14. Same title, „ 40 „ 288.

This is a local legend of a fane, composed in the *Padaya cávyam* metre, by *Rama Crishna-cavi*, in the reign of *Sri-rangha-rayalu*, whose genealogy, as patron of the poet, is given. The *puranam* was declared by *Vyása*; by him communicated to *Suta-rishi*, who delivered it to *Savunaca-rishi*. It is divided into 5 sections.

The excellency of *Cási*. The *Brahmans*, and other sages, its buildings, people, and a variety of matters, descriptive of its splendour, and superiority.

2. Account of *Pandurangam*, narrated by *Siva*, to *Parvati*. In very early times *Pundarica*, for his exemplary virtues, was favoured with a visible appearance of *Vishnu*, as *Crishna;* and obtained from him special immunities, and privileges, for this shrine. Some details are given, respecting the different *tirt'has*, or sacred pools, for bathing at this place.

3. Concerning *Calinga-patnam*. Account of a *Brahman* of *Calinga*, whose manners and conduct were extremely bad; but who afterwards, by worshipping, and bathing, at this place, became entirely altered, and finally obtained beatification.

4. Concerning the *Pundarica tirt'ha*. The value of this particular pool, named after the founder of the shrine, and the efficacy of bathing therein, are illustrated by a variety of legendary anecdotes, or narratives, in the usual strain.

5. Narrated by *Sambu-murti*, or *Siva* to *Náreda*. This section relates chiefly to *Crishna* and *Rucmeni*, and its being put into the mouth of *Siva*, is apparently designed to magnify the worship and sect of *Crishna*, to the depreciation of the rival system.

Note.—In the manuscript No. 39, there is a very slight deficiency at the end of the first section; the second section is complete; and of the third section about half is written; the work of the copyist being suspended in the midst of a leaf, and the remainder of course wanting. The book is fresh, and in generally good preservation. A little injury in one or two leaves, by insects, is as yet of no consequence. No. 40 is complete in 138 pages, it is a much older book than the preceding copy; but is nevertheless in perfect preservation.

Both copies are entered in the Des. Catal. vol. 1. p. 271. art. 15.

15. *Sasanca-vijaya*, a tale of the planets, No. 85.—Countermark 408.

This fragment is part of a work framed on a mythological incident, found in the old *Purános*. *Atri* by his wife *Anasvaya*, had three sons named *Dattatreya*, *Durvasa*, and *Chandra*. The latter going to the mansion of *Vrihaspati*, seduced his wife *Tara*; and *Budha* was in consequence born. *Sucra*, the enemy of *Vrihaspati* suggested this evil course to *Chandra*. The consequence was a terrible war between the celestials under *Vrihaspati*, and the *asuras* of whom *Sucra*, is the preceptor. *Vrihaspati* denounced on *Chandra* the doom of being subject to increase in one half month, and decrease in the other half.

That real persons bore some of the above names is everv way probable. But, for the rest, the story is an astronomical allegory.

Note.—Out of five sections, this manuscript only contains part of the fifth, and that damaged by the breaking of the leaves. It is entered in Des. Catal. vol. 1. p. 338, art. 56, with a brief index; correctly ascribing the authorship to *Vencatapati*, son of *Crishnaiya*. It may be added that he wrote in the *Padya-cávyam* measure.

16. *Patita-pavana Cheritra*, No. 78.—Countermark 389.

This is also a fragment by *Vencatapati-cavi*, son of *Kechana*, or *Crishnaiya*, being the same person as above: the metre used is the same. There are three sections; and three others are wanting. The contents are narrated as if from the mouth of *Válmica*, addressed to the *muni Bharadvaja*. The praise of *Rama-chandra*, as an incarnation of *Vishnu*, is enlarged upon; and *mantras*, proper to the *Vaishnava* system are given. The worship of *Vishnu*, as *Vencatáchala*, his more modern

and popular form in the neighbourhood of *Tripeti*, is likewise eulogized. It is wholly a *Vaishnava* production.

Note.—The appearance of the book is not very old; but it has been rather severely attacked by the book insect; not however, so far at present, as to injure its legibility. It will require, in common with all such books, to be occasionally opened, and exposed to the sun and air. Neglect, damp, and worms, assist the "omnia edax tempus."

The manuscript is entered in Des. Catal. vol. 1. p. 333. art. 43.

17. *Sananda Cheritra*, No. 75.—Countermark wanting.

This is an old book, considerably damaged by wear, and also imperfect, by the loss or deficiency of many leaves. It is an ultra *Saiva* production, by *Singaiya cavi*, of *Calahastri*, written in the *dwipada* measure.

The birth of *Sananda* is described; he became a devotee according to the *Jangama* system, and a follower of *Bassavesvar*. He visited certain *rishis*, or devotees, in a wilderness, and with them went to *Yama-puri*. He there saw all the various tortures suffered by *Pápátmalu*, or wicked souls, and was greatly affected thereby. Moved by fear and compassion, he uttered aloud every where in that doleful region, the *Saiva* five lettered formule—"*Nama Sivayi*"—the hearing of which led to its repetition by the whole of the sufferers: the potency of the charm was so great, that they were delivered from their state of peril, and translated to *Cailasa*, the paradise of *Siva*. Disgusted at losing his subjects, *Yama* went and complained to *Siva* against *Sananda*; but *Siva* replied that *Sananda* was born under a special influence from himself; was a faithful votary; and recommended *Yama* to return whence he came.

Note.—The book is entered in Des. Catal. vol. 1. p. 337, art. 53.

b. Manuscript Books.

Manuscript book, No. 23.—Countermark 393.

Rámabhyudayam, or a popular poem on the adventures of *Rama*.

Referring to the notice of this work, in a preceding part of this report (palm-leaf MS. 98), it only needs to be observed, that, whereas the palm-leaf copy is exceedingly imperfect, this copy on paper is complete. It follows generally the details of the *Rámáyana*, in an abridged form, and is divided into eight *asvāsas*, or sections.

The book is written with indelible ink, and as a whole, is in extremely good preservation.

It is entered in Des. Catal. vol. 1. p. 334, art. 46.

Manuscript book, No. 6.—Countermark 899.

Section 1. Journal of *Nitala-narayan*, from February 1816, to March 1819, in Travancore.

This journal consists merely of tabular memoranda of towns and villages, or observable places passed; and is a sort of itinerary addressed to the writer's own recollection, without having been drawn out into a fully written report. This state of the document may perhaps be accounted for, by reason of his employer being called away to Calcutta in 1819. I have usually passed by such reports. This one is of less worth than usual. It is written on China paper, which is uninjured, and the ink will long continue legible.

Section 2. Account of ceremonial purifications, and other customs of the *Smarta* Brahmans of *Kerala desam.*

This small and brief document, written on China paper in Telugu characters, is in the Sanscrit language; and will be adverted to, in the proper place.

Section 3. Account of *Sancarácharya*, and the *Namburi* Brahmans.

According to this document *Sancarácharya* was the illicit son of a widow; born by reason of vows, made in jest, before a *Saiva* emblem. On his birth, his mother was excluded from her tribe, by the *Namburi* Brahmans. The child made great progress in learning; and, travelling to Conjeveram, there formed a shrine; from doing which he is herein said to have derived his name. At a later period he laid down 64 rules for observance in the Malayalam country. Some rules were also prescribed by *Parasu Rama.* Copies of these rules, in their substance, are given; they relate to many matters of daily intercourse, in life; and to various ceremonial observances.

This document is written on China paper, but not injured; and the ink will long continue legible. There are a few copies of short inscriptions in Sanscrit *slocas*, not of great importance, but to be noted in another place.

Manuscript book, No. 3.—Countermark 693.

The contents of the three first sections of this book, relate to every

minor details, respecting sixteen villages; the whole occupying only a few octavo pages, and containing lists of villages, and matters therewith connected, of no consequence.

Section 4, being stated in the index to contain an account of *Budam*, a ruined city, attracted more special attention. On examination, it appears that the *Jainas* held an ascendancy, and built this town, in the *Repalli* district. But discussions arose between them and the Brahmans, which led to the persecution and punishment of the *Bauddhas* (which last term is also used). The town which they once inhabited, becoming depopulated, went to decay, and finally to ruin; and the ruins are stated to be extensive; while, according to common report, amidst the ruins there are buried images, and other remains, of the *Bauddha*, and *Jaina*, system of ritual worship.

Section 5. Relates to a village called *Buda-palli;* deriving its name also from a *Bauddhist* founder; but concerning which there is nothing particular, claiming special notice.

The remaining four sections are occupied with very brief accounts of twenty-two villages, and one *agraharam*, so minute and unimportant as to claim no further attention.

Remark.—The book is only an octavo, firmly bound; the ink good; the country paper in some places is a little damaged by worms; but all that is required to its effective preservation, is the being occasionally opened, and exposed to the air: the neglect of which precaution has given occasion to much of the damage sustained by the collection.

Manuscript book, No. 42.—Countermark 796.

The *St'hala mahatmya* of *Tirukola-kudi* fane, in the *Siva-gangai* district.

This paper, not noted in the table of contents, has been pasted into the book, and is contained on three pages of country paper.

At the request of *Agastya* and *Pulast'hya, Siva* usually resident on *Kailan-giri* (or *Cailasa*), came hither, and taught instructions conformable to the *Saiva* system; while seven *sactis* also became resident there, whence the fane is sometimes called by the name of *Siva*, sometimes by that of the *sactis* aforesaid. The legend is of no other use, than to add an item of evidence to the first planting of the *Saiva* system in the extreme south.

The remaining contents of the book are found to contain an account of the supercession of the old *Pandiyan* kingdom, in the time of *Chandra Sec'hara*, by the northern dynasty, of which *Visvanát'ha Nayak*, was the first; and coming, with considerable fulness of detail, down to the end of the reign of *Tirumala Nayak*. From this last mentioned circumstance; and from internal evidence, of style and manner, I perceive the document to be a first part of the narrative, of which a second part, and verbose continuation, down to the entire cessation of the dynasty, is contained in MS. book, No. 31—Countermark 785, and noticed in my first report (B. Telugu). A translation of this latter was published by me among annotations in the 2d vol. Or. Hist. MSS. I did not at the time know why the account therein commenced with the son of *Tirumala Nayak*; but the present document, now met with, explains the reason. The two parts being taken together constitute a complete history of the northern Madura dynasty; fuller in details than any other one, I have yet seen. This part ought also to be translated. This first portion is in much better preservation, than the second was heretofore found to be. Still as the China paper on which it is written is fragile, and the ink not good, its restoration has been judged suitable; since I regard the document as one of value.

I have examined it in various places, so as to satisfy myself concerning its contents, but the reign of *Pedda-Crishnapa-nayak*, successor of *Visvanat'ha-nayak*, was scrutinized with the most care, in reference to the war against *Tumbichi Nayak*, and with a view to see if it confirmed the statement in palm-leaf MS. No. 124 (see 3d report, B. Telugu 1), respecting an invasion of Ceylon, by that king. The account of that event is found herein; with two minor variations of some consequence. The invasion is attributed to a refusal by the *Singhala* king to send pearls and elephants; demanded by the Madura king, as a compensation in place of pecuniary tribute. Some difference is observable in the incidents of the war; and, especially at the close, the *Singhala* king instead of being killed in battle, is represented as conquered, and consenting to send the pearls and elephants, and thereupon having all his authority restored to him, and acknowledged. This attestation to the leading fact of an invasion of Ceylon, from Madura is of importance. There is also a repetition of the assertion in the aforementioned MS. that *Pedda Crishnapa Nayak*, exacted tribute from the Malayalam king. No external indications could have led me to expect any such document in this book; and the need of patient research in the documents of a collection, at first so loosely and carelessly thrown together, is the more apparent.

Note.—The table of contents, as entered at the head of the book, may be seen on reference to the Des. Catalogue vol. 2. p. 50, art. 42. According to that table there should be six sections, referring to Chittoor, to Vellore and Arcot, to Chingleput, to Sadras, to Gingee, and Trivalore, not a word* answering to which indications is to be found. The index must have been prepared for other matter; and the documents herein contained, put in perhaps at the discretion of a native *muchi*, or binder. However, now that the real contents are ascertained and appreciated, the mistake ceases to be of consequence.

Manuscript book, No. 32.—Countermark 722.

Appended to the full, and interesting, account of the princes of Warankal, abstracted in my last report, is a paper concerning *Calyanapatnam*, then adverted to, and deferred until the palm-leaf MS. No. 128, *Basavanna Calagnána*, had been examined. Though both relate to the *Vira Saiva* sect, and to *Bassavanna*, as one of its distinguished promoters, yet the subjects of the two works differ. This appendix is therefore here resumed.

It is entitled an account of the minister of *Vijala raja*, who ruled in the town of *Kalyána*.

The elder and younger *Basavésudu* were the founders, or revivers, of the *Jangama* sect. *Pedda tanda Basava*, the elder, is stated to have been an incarnation of *Nandi*, the bullock-vehicle of *Siva;* sent down, by an agreement between *Siva* and *Parvati*, to restore and spread the *Vira-Saiva* system. *Chena Basava* was his sister's son, or his nephew. Various narratives are introduced, and among them that of *Kuna Pandiyan*, who destroyed the *Samunas* at Madura; and is, in consequence numbered among the *Jangama* votaries, by themselves. The great topic is the overthrow and extermination of the *Jainas*, which every where seems to have been accomplished by means of ultra *Saivas*. The precise locality of *Kalyanapur* is doubtful; but it was in the north-west part of the peninsula, where the *Jaina* system, under various rulers, greatly prevailed. The two *Basavas* every where exterminated the *Jainas;* and, at length, effected the death of *Vijala-raja*, their master, who was a *Jaina*. On this subject there is prospectively much to come. The present document is therefore now dismissed; with the sole further remark, that it is in very good preservation.

* Since the above was written I have discovered that the index, proper to No. 41 was bound up in this book, and *vicê versa.*

Manuscript book, No. 28.—Countermark 218.

The contents of this octavo volume, relate to forty-six villages, in Telingana proper; the contents of each section being very brief; and after the investigation made with reference to other villages, in the same general locality, not offering any thing of leading importance. The 36th section has a notice of the tribe of weavers, in that country; of course of no material consequence.

This book as to paper, is in extremely good preservation. The ink is black and indelible. The cover is loose, at the back, through careless binding; but, with ordinary care, the document may be preserved many years.

Manuscript book, No. 29.—Countermark 719.

This book, of like size with the preceding, relates to the same general neighbourhood, and contains details of thirty villages, and *agrahárams*, or Brahmanical residences, the latter granted by *Mukant'hi* chiefs. Binding excepted, the whole is in good preservation, and much on a par, in all respects, with the preceding volume.

Manuscript book, No. 30.—Countermark 720.

This is a very thin quarto volume, and contains accounts of ten villages, somewhat more full than the preceding; but not claiming minute abstract. These villages are situated in, and near, the *Chintapalli* district.

The paper on which this book is written is thin, and inferior to that of the two foregoing ones. It has been in some places perforated by insects; but not to any serious extent. The ink is good; the binding loose at the back; but the whole will last long, with only common care; the contents are not of much interest, or consequence.

Manuscript book, No. 2.—Countermark 340, *Bhadra-parinayam*, an epithalamium.

A poem in three sections by *Peddanácharya*, relative to one of the eight principal consorts of *Crishna*; demanding of course no special attention. Some little damage by worms being excepted, it is in good preservation.

Note.—It is entered in Des. Catal. vol. 1. p. 320. art. 8.

Manuscript book, No. 29.—Countermark 312, *Pratapa-Cheritra*, or *Kakatiya vamsavati.*

This production is a poetical account of the *Ganapati* kings of *Warankal*. It is composed in the *dwi-pada* measure. The general subject is the same as that of MS. book, No. 32; of which a lengthened abstract was heretofore given. The only difference is that this is more ornamented, as being in verse, the substance in both is the same. There is a Sanscrit poem by *Vidyanāt'ha*, entitled *Pratapa-rudrayam*, of which this present production may be a Telugu version; but not having the composition of *Vidyanāt'ha* in possession, I can only offer a conjecture. The work under notice has within itself an indication to the effect, that it was produced by the united efforts of three sons of *Casamalaiya*, a *Brahman*, of the *Atri-gotra*, or tribe of *Atri*. The book is in excellent preservation.

C.—MAHRATTI.

Manuscript book, No. 3.—Countermark 889.

Section 1.—Legendary account of the fane of *Varada-nāt'ha*, and of the *Sunda* river.

Legendary and *pauranical* reference. When *Siva* and *Parvati* were on *Cailasa*-mountain, *Nareda* came and represented that since *Brahma* had five heads, he was by reason thereof very proud. To lower his consequence *Paremesvarer* cut off one of his heads; and then, in order to expiate this crime, he wandered about for twelve years as a mendicant, asking alms. He did penance at this above-mentioned, place. *Narayanamurti*, knowing this circumstance, came hither; and taking up some water from a pond, with the ordinary drinking vessel made use of by *Brahma*, he with it, poured water over the head of *Siva*, and by doing so removed the guilt of his crime. By virtue of the touch of the said vessel the pond became a river. Hence all who bathe in that river, will, by doing so, wash away all guilt, or defilement whatsoever.

2d, *adhyayam*. Several persons, came hither, and formed in all twenty-four *tirt'has* or pools, the names and virtues of which, are specified. Among them are the names of *Brahma*, *Vishnu*, *Siva*, *Indra*, *Agni*, *Cubera*, *Isani*, and others.

3d, *adhayayam*. A *Brahman*, to whom the titular name of "hearing the *Vedas*" is given, came hither, and by bathing evening and morning

in the different pools, was favoured with special visions of the deities, whose names they respectively bear, and obtained beatification. *Vishnu* after bathing in all these pools, went and succeeded in destroying the *racshasa,* named *Saugata-rana.* In the war between the *devas* and *daityas,* many of the latter, by bathing here, obtained beatification. The entire three hundred and thirty millions of celestials bathed here. Near to the river is a fane called, *Varada-nat'ha-cshetram.*

REMARK.—Local mythology apart, the only point of notice is, that *Vishnu's* destroying the above-mentioned *rācshasa,* seems to be a symbol of the ever recurring subject—the triumph of Hinduism over the *Bauddhas ;* the term *Saugata* being somewhat synonymous with Giaour, or infidel.

Section 2. Accountof *Mayura-Verma,* a king of the *Cadamba* dynasty.

1. The account is put into the mouth of *Suta-rishi,*as related to a *Brahman.* The destruction of the *Cshetriyas* by *Parasu Rama ;* his disgust with the *Brahmans,* and retiring to a hermitage : several *rishis* followed ; and, looking on the western sea, advised him to reclaim land from it. The sea-king promised to render to him land, as far as he could cast an arrow. He thus reclaimed a tract of land of three *yojanas* (30 + miles) in breadth westward; and in length, from *Nisica* to *Canya-Cumari,* 300 *yojanas.* Southward, or + 3000 miles. He located *Brahmans* therein, turning the *Boyi-jati* into *Brahmans ;* settling one thousand of them there ; and appointing to them lands for their support. He told them that if they had any cause of sorrow, or regret, they might think on him, and he would appear. He then retired to the fane at *Gokernam.* The said *Brahmans,*to test his veracity, recalled him, without cause ; whereupon, being angry, he condemned them to lose the power of assembling together in council ; and to become servile. They accordingly mingled with *Sudra* females ; and became a degraded race.

About this time one named *Mayura-verma,* considering those *Brahmans* to be contemptible, sent for others from *Haí-Cshetram,* and located them at different places in his dominions.

2. *Sona muc'hi* enquires of *Nareda,* why *Mayura-verma* so located the *Brahmans,* and whose son he was. In reply a legend is stated to the effect that *Siva* and *Parvati,* on *Cailasa,* agreed to come down, and look at this newly formed country. In consequence of their doing so, an infant was afterwards found under a *Cadamba* tree, in the wilderness; to whom the epithet of *Cadamba* was therefore applied. It happened that the *Mulata* country being without ruler, the people placed

a pot of water in the trunk of an elephant, agreeing to elect the person on whom it should be effused. The elephant went to the *Cadamba* wilderness, and poured it over the head of the young man there, who was proclaimed king of that country, and also of *Caurashtaca** *desam*. He went to the *Kerala-desam*, to perform homage; and, at a shrine there, was confirmed in possession of the kingdom. He was married, and his son was *Mayura-verma*. He complained of the degeneration of the country *Brahmans*, and invited others to come and purify his country. A few other particulars are added, as to the location of the colonist *Brahmans*.

Remark.—This section, being rectified from its legendary admixture, is of value.

Section 3. Account of *Srinivasa* fane, in the village of *Balamuri*, in *Canara*.

Bhishacācharya relates the excellency of the *Caveri* river. It is presumed that here *Caveri* (like *Ganga*), is used generically for a river. The purport of the paper, written partly in Balbund, partly in Mahratta letters is legendary, intended to account for the homage of *Vishnu* under the name of *Srinivasa*, as the lord of *Lacshmi*. Mythology excepted, there seems to be nothing of consequence, in this section.

General Remark.—This book is injured in the binding, but the country paper within is but slightly perforated by insects, the ink indelible. It may therefore pass, as not requiring, for the present, any further attention.

Manuscript book, No. 4.—Countermark 916.

Section 1. On the war of *Sālivāhana* against *Vicramaditya*.

In this section the usual enigmatical account of the birth of *Sālivāhana* is given; his mother herein being described as the daughter of *Bhascara*, a *Brahman*. The difference from other accounts is that, after the battle, *Vicramaditya*, having survived, sent messengers to treat with *Sālivāhana*, and agreed to pay tribute, on condition that each should rule on either bank of the *Nerbudda* river; that is *Vicramaditya* to the north, and *Sālivāhana* to the south. In another *Mahratta* document heretofore abstracted, such a division of one kingdom into northern and

* By a modern corruption, Gujerat.

southern was mentioned, with some details of posterity on either side; and there really may be truth in such a simple statement, respecting a remote period, greatly mystified by *Hindu* writers. As to *Sālivāhana*, having for father a *naga*, or snake, it is mere symbol The illegitimate son of *Kulottunga* named *Adondai*, the conqueror of the *Curumbars* is, in several Tamil manuscripts, said to be the son of a *Naga canya*, or female-serpent, which plainer books tell us means a female slave, or dancing girl, of *Kulottunga Chola's* court. To build any wild deductions on such figurative terms in *Hindu* writings is nonsense. The *Brahmans* have their "slang" language, just as much as the gipsies, or the jockeys of Newmarket. To get at their meaning, where they purposely conceal it, is the problem. Colonel Mackenzie seems to have had a hint given him; since he has written in pencil on the document, "A tantrum, or specimen of fabulous history." A *tantra* no doubt it is; and the meaning seems to be that the glorious *Vicramaditya* was beaten by the son of a slave, or wild forester.

At the end of the document, it is stated to have been expressly compiled from other books by *Sri-pati rao*, and *Chimmanaji-appa*, in November 1805, at Ahmednugger.

Section 2. In the injury to which the book has been exposed, this section appears to have been lost.

Section 3. Account of *Damaji Pant*, a person remarkable among the *Vaishnavas*

About 700 years ago, one *Damaji* was employed as a gomasteh, or factor, at the court of the Delhi-Padshah; and, as a reward for the skill which he displayed, a small district was made over to him, as a zemindary, subject to a tax. On going to his district, *Damaji* greatly abounded in liberality to *Vaishnava Brahmans*, multitudes of whom in consequence resorted to him; and could not be refused. The result was that *Damaji's* tax ran on in arrears; until, at length he was compelled to write to the Padshah, and explain his insolvent situation. The Padshah sent officers to take him; put him in fetters; and bring him to Delhi. But the deity at *Panrapur* (or Panderpore), hearing the misfortune of his votary, represented the case to *Rucmeni*, his spouse, and borrowed from her, all her golden, and jewelled, ornaments. Assuming then the appearance of a relative of *Dámaji*, the said *Crishna* went to the presence of the Padshah; offered payment of *Damaji Pant's* arrears; and demanded a receipt, and full acquittal. The Padshah was so struck with the surpassing beauty of the messenger's countenance,

that for a time he was unable to give orders; but at length he directed the requisite documents to be made out; and on signing them sent word to *Damaji,* that he wished again to see the messenger. When the message, and acquittal reached the insolvent, he was much embarrassed; until, pondering over all the circumstances, he discovered that it was a manifestation of the *numen,* whom he worshipped at *Panripur,* that had interposed in his behalf. He then vowed a pilgrimage to that shrine; and, as the document says, the Padshah went with him: they together bathed in the *Chandra bhaga* pool, at *Panderpore.* This account was expressly written for Colonel Mackenzie, by *Shani-rao,* on the 24th December 1805, at Ahmednugger.

Section 4. Account of *Prasanna-Prabhu.*

This is merely an inane legend concerning a devotee of modern time; written to satisfy the curiosity of Colonel Mackenzie: but apparently not of the slightest value. The person referred to, had signalized himself by devoteeism of surpassing character.

There follows a tale, or fable of an ape and an alligator; taken from the later portion of the *Pancha-tantra* tales, as narrated by *Vishnu Sarman;* of course not relevant to the present enquiry.

Remark.—According to the table of contents, prefixed to this book, there ought to be in all eleven sections; but all the matter now found in it is specified in the foregoing notice. The binding is broken; part of the book appears to be lost; and what remains has the margins, and some part of the writing, devoured by termites; their mode of doing mischief being easily distinguished from that effected by worms. A sufficient notice of the contents has been given. The account of *Vicramaditya* and *Sālivāhana,* is like other narratives, save the difference already indicated. The whole of the lengthened document, I do not think worthy of restoration; and all besides, is quite worthless. The book is passed without further attention.

Manuscript book (without mark or number).

In this book a quantity of loose leaves, containing Mahratta and Canarese papers, appears, to have been put in at random; possibly because, having been scattered, their order was unknown. On looking at the contents of the Mahratti, it appears that some part of the pages should belong to the foregoing book, No. 4. These relate to some *Hindu* auxiliaries of the Mahrattas, and legendary miscellaneous topics; and some

part relates to contents of MS. book, No. 35 (Des. Catal. vol. 2. p. 116), in those sections that refer to the *Bala Rāmayana*, to *Bhoja raja*, and to the birth of *Sita*.

It is not now possible to extract order out of so much confusion. Happily the contents of the papers, so disarranged, do not seem to be of consequence. A perusal leaves the impression, that every thing material, in reference to the Mahrattas, is found in other documents; and as to the legendary, or mythological, matter this need excite very little regret: the quantity of details, on such subjects, being superabundant.

A few other loose sheets not included in this book, or any other one, are found on examination to be wholly legendary, and worthless. Not knowing any better place for them, they are put along with the other loose papers, in this book; and the whole must be passed, as incapable of receiving orderly, and complete adjustment; at the sametime not meriting restoration; even supposing it could be successfully effected.

Manuscript book, No. 34.—Countermark 784.

Section 1. Account of the allowances of the fane at Madura.

Such is the section heading prefixed, and also entered in the Des. Catal. The real contents are very rough and loose memoranda, concerning allowances to the fane at Tripety, of grants made by *Chola* and other *rajas*, and of the expenses of processions, or other festivals.

Section 2. Account of allowances to the shrine *Minacshi-amman*, at Madura.

This document relates to the said *Saiva* fane; containing as in the former paper, rough memoranda of grants, by various *Pandiyan* kings; and accounts of expenses at different festivals, and processions.

Section 3. Account of the allowances to the fane of *Alagiri*.

This section relates to a place of celebrity, about ten miles from Madura, situated on a hill; the image on which once a year pays a visit to the *Vaigai* river, in public procession. The memoranda of grants, and expenses, are similar to the preceding.

Section 4. An account of Mahomedan affairs in the Madura district.

This is a more connected statement, chiefly referring to revenue arrangements, and *jaghirs* from the Mahomedans.

Section 5. Account of *Indra* and *Nahusha raja.*

This is the legend taken from an older *purana,* with which the Madura *St'hala puranam* is made to begin: needless to be further detailed.

Section 6. Narrative of *Lava* and *Cusa.* Some particulars concerning the two sons of *Rama* of *Ayodhya;* of no special consequence.

Note.—The book on the outside is labelled " Tamil kyfeats," as pertaining to a locality where the Tamil language is spoken; and is found entered in the Des. Catal. vol. I. p. 68, art. 34. among Tamil documents. The language is however Mahratti, throughout; and this circumstance, I presume, arises from Mahratta accountants being employed at Tanjore, and latterly also at Madura. Hence I suppose these papers to have been, in part, extracted from cutcherry-papers : the entire control of festivals, and of allowances to them, being vested in the Principal Collector of the district.

The document is in very good preservation; and can at any time be consulted if necessary.

Manuscript book, No 39.—Countermark 947, account of the capital of Arcot.

There is, at the opening of this document, some matter which appears to be taken from Ferishta, concerning the origin of the dynasty of Timur Shah. The reign of some of his descendants is adverted to, and then a transit is made to the conquest of the Carnatic by Alemguir ; and to the Mahomedan ascendancy. Thenceforward there is an account of the government, and fluctuations of power, at Arcot ; with references to Hyder Ali, Tippoo Sultan, and finally to the English.

Remark.—This document, in the latter part, may be of some value. It is in moderately good preservation; though in some places a little injured by insects.

It is entered, among Tamil papers in Des. Catal. vol. 1. p. 50, art. 39.

Manuscript book (on the cover, and first page, No 51—Countermark 488. *Bhairaves-vara Cadha,* &c. on the contents 25), tales of the *Betala* and *Vicramaditya.*

This Mahratta version of these tales is damaged; and, having been loosened from its proper cover, seems to have been put at random into the covers of a book, the contents of which should be Canarese, with re-

ference to the *Vira Saiva* sect; or the persecuting, and exterminating,class of *Hindus*. Where the said matter in Canarese is, I know not. With the discrimination given, this book must pass as it is. It requires no further notice.

In the Des. Catal. vol. 2. p. 115. the entry occurs; art. 25. "Thirty-two stories of *Vikrama-raja*," and denotes, I presume, the book as it originally was among Mahratta documents.

Manuscript book, No. 5.—Countermark 650.

Pandu-rangha Mahatmyam, legend of the fane at *Panderpur*.

This book is written in Balbund characters, and is an incomplete copy, or rather a fragment of the legend in question. There being a better copy in Telugu, before abstracted, this book requires no further notice. It is in moderately good preservation.

D.—MALAYALAM.

It was heretofore stated that, to the best of my knowledge, all the Malayalam MSS. had been attended to; but, on the remainder of the collection coming more completely under my inspection, two palm-leaf MSS. in Malayalam were met with, among the Tamil documents, and one amidst the Telugu palm-leaf manuscripts; with some portions in Malayalam, mingled with Tamil and Telugu, in manuscript books. The following notice relates to these different documents.

1. *Kerala Ulpatti*, an account of Malayalam, No. 3.—Countermark 632.

This is a complete copy of the *Kerala Ulpatti*, on palm-leaves; agreeing with the copy which was before noted from a manuscript book. One leaf which was broken has been restored. The remainder is in good order..

Appended is the tale of *Sacara*, being I perceive, in all probability, the original of the Tamil MS. entitled *Sacara-cadha*, abstracted at the commencement of my third report. This document has the beginning, and is in regular order to the 25th leaf, but the remainder is wanting. This fragment is slightly touched by insects, but upon the whole is in good order.

2. Fragment of the *Kerala Ulpatti*.

This document was without label, number or any other of the usual marks of these manuscripts. On examination it was found to be an unconnected part of the *Kerala Ulpatti*, in that portion which, relates to

the *Art'ha-Brahmans,* or the fishermen turned into Brahmans by *Parasu Rama.* There are only seven leaves, which are on the said topic, but without any proper close; being consequently incomplete.

3. *Kerala-Crisha-gita,* No. 1.—Countermark 633.

This is a poem on agriculture: a species of native Georgics. A manuscript copy was before noticed, and abstracted (vide 2d Report, book No. 3, sect. 3).

This manuscript was met with among the Telugu books; and, by consequence, escaped an early notice.

It is small; written on talipat leaves; complete; and in good preservation.

It is entered in Des. Catal. vol. 2, p. 95. art. 2.

Manuscript books.

Manuscript book, No 13.—Countermark obliterated.

The first, and largest, part of this book consists of Tamil papers, relative to the Malayalam country, of very little consequence: they are adverted to, and in part abstracted in my fifth report, under the head of Tamil documents. A few loose papers in the Malayalam language were unexpectedly met with, at the close; of which the following is a notice.

1. Two loose leaves, the first containing Sanscrit law *slocas,* with a Malayalam interpretation.

2. (Sec. 46, of the book). An account of the *Māpillais,* or Mahomedans, of *Ponani.*

States their having been brought from Mecca, by *Cheruman Perumal,* and located in this country; conformably to notices in preceding papers.

3. An inquiry into the difference between two tribes of military people, termed *Cola surupam* and *Tripal surupam,* made by judge Baber, with the replies in the shape of question and answer. The difference seems to have been thought of importance, as depositions were taken on oath, in the presence of an idol. The answers appear to be inane; at all events, of little or no consequence, in the present researches.

4. Enquires as to right of inheritance; which, in the Malayalam country, is not in children of direct descent, but only to sister's children.

5. An enquiry from the provincial court answered by two *Nambúris,* and one *Potuval,* as to the legality of selling the house of a

debtor for the advantage of creditors; without the consent of the debtor's proximate relations. The answer states, that entailed property cannot be so seized and sold; but any house previously purchased by the debtor, on his own account, may be so available.

6. Relates entirely to law, in matters of theft; resolved by *slocas* from Sanscrit authorities.

Remark.—It will thus appear that the Malayalam portion of the book is not relevant to the object of the present investigation. Although the several papers are but in an indifferent state of preservation, yet it does not seem to be of consequence to re-copy them. The entire book, like many others, yields a specimen of negligent service, by the *employés* of the late Colonel Mackenzie.

E.—PALI. (As supposed).

Uttara Vadakan, No. 10.

This book, with the following one, are exceptions to the general appearance and contents of the collection. This one contains 40 broad, though short, talipat leaves; old in appearance; but in good preservation. The character seems to me, to be, the *Pāli* of Ceylon; but I cannot go beyond conjecture, as I have never seen any other than the circular Ceylon *Pāli*, and the square *Pāli* of the *Barma* country. The book has strong covers of a fine grained wood, resembling mahogany; and, if I mistake not, has written within side one of them the name "J. Sinclair, July 1818;" together with a little, from which I have made out the one above given. I regret that I have not the means of ascertaining the contents.

Mantras, No. 14.

This is a miniature manual, on small talipat leaves, much fretted away at the edges; old in appearance; and in rude writing. The characters, as above; but not so well defined. The covers have a bright polish, and inside one of them is written. "Muntrum J. Sinclair July 1818." Perhaps both books were obtained in Java, at its capture. Be that as it may, I think both were originally written, or copied, in Ceylon. Should any *Pāli* scholar, at any time, inspect the collection, it may be that a glance would suffice to determine, both the nature, and value, of the matter included.

F.—PRACRIT.

Palm-leaf manuscript, No. 62.—Countermark 140.

Mairavana Cheritra (*Grant'ha* characters), stated in the commencement to be taken from the *Jaimini Bhárata*.

1. *Adhyáyam.* Description of a fictitious town, with its various kinds of inhabitants.

2. Reference to the court of *Ráma,* the visit of *rishis* to him. His enquiries; and their congratulations.

3. Reference to the valour of *Hanuman.* The eulogy pronounced on him by *Agastya,* who narrates the tale. The sorrow of *Rávana,* in his palace, at his defeat; and complaint thereon to the inhabitants. In consequence *Mairavana,* a *racshasa,* came to console him, and to point out a scheme of revenge.

4. *Rávana* asks what can be done, not against men, but gods. *Mairavana* engages to go down to his kingdom, the inferior world, and offer a sacrifice to the evil goddess there. The wife of *Mairavana* dissuades him from any enterprize; since it must issue in his destruction. He then applies for counsel to his ministers; being still in his kingdom in the lower world.

5. *Mairavana* sets out at the head of his army, from the inferior world determined to make war. On the way evil omens appear.

6. *Vibúshana,* younger brother of *Rávana,* knowing all the preparations, which were being made, informed *Hanuman* and *Sugriva. Rama* (as *Vishnu*), was then sleeping, and could not be disturbed.

7. *Hanuman* assumed a supernatural form; and bound his tail all around the fortress, or camp of *Rama,* from the heavens down to the lower regions. He allowed only one entrance, at which he kept guard; and despatching *Vibúshana* as a scout, he gave charge of the interior to *Sugriva,* and others. It was now night.

8. *Mairavana* sent a spy who reported the preparations made; adding that *Vibúshana* only was outside, whose form thereupon *Mairavana* assumed, and going to *Hanuman,* told him to be on his guard: being allowed to enter the fortress, he took *Rama,* and his brother *Lacshmana,* both being asleep, and putting them into a box carried them down to his inferior world. *Vibúshana* was warned by evil omens; and returning, to see the cause, the deception was discovered. *Hanuman* enquired for directions; and, guided by a particular flower tree, came to the

entrance of the descent to the inferior world. Thither he went with troops, his proceedings, and the battles which followed, are detailed. It was not possible to kill *Mairavana*: he was cut into pieces; but the parts of his body came together again. All attempts to put him to death failed; until a relative pointed out that his life was in a certain cave, in the form of bees. These were killed by *Hanuman*, and *Mairavana* expired. The victor then placed the relative of *Mairavana*, who had given the information, in possession of the kingdom of the inferior regions, and took *Rama* and *Lacshmana* (both still asleep in the box, and knowing nothing of the matter), back to their proper place. *Agastya* narrated this tale to *Rama* in praise of *Hanuman*. *Rama* was greatly pleased; and showered down benefits on his successful protector. The whole time of the action of the poem was a single night.

NOTE.—The manuscript is complete, a little injured by insects, but not seriously. It is entered in Des. Catal. vol. 1. p. 97, art. 9.

There are some resemblances in this poem to others* of European production, which are to me rather surprising. Apart from which reflexion is the obvious remark, how lightly the *Hindu* votaries make of their idol gods, as occasion serves.

Manuscript book, No. 47.—Countermark 606.

Sanatcumara-silpi-sastra.

This little book is Sanscrit, in the Canarese character. It states that whereas several persons, in preceding times had written on the subject of architecture and sculpture, the author named *Sanatcumara*, having studied the whole of them, and having adopted from them, what appeared valuable, wrote down the results in this compilation. A detail is then given of the consequences that will follow from undertaking any work, in the various months of the year, some being propitious, and some otherwise. The effects of beginning to construct any edifice, under the different *nacshetras*, or 28 divisions of the lunar path. Different colours of soils adopted to the four leading divisions among Hindus. Matters such as these fill the document; not pertaining to the practical, or scientific parts of sculpture or building; but to astrological, and other indications; calculated, in the judgment of the writer, to guard against evil, and secure the greatest amount of benefit.

NOTE.—The book is in good preservation; but is incomplete. It is entered in Des. Catal. vol. 2. p. 63, art. 14.

* I allude to a passage of the *Æneid*, and to another in Milton's principal poem.

Manuscript book, No. 6.—Countermark 899.

Section 1. Containing rough notes of an itinerary, by *Nitala narayan*, was noticed under the head of Telugu manuscript books.

Section 2. *Parasu-Rama-mahatmyam*, taken from the *Brahmandam-puranam*.

This paper does not seem to be entered in the table of contents. It is a document of octavo size, written on China-paper in Telugu characters, but the language is Sanscrit. It is divided into two sections.

1. The early life of *Parasu-Rama*. The quarrel of his father with the *Cshetriyas*. The slaughter of the *Cshetriyas*. His proceeding to the west; and there obtaining from the sea-king and goddess of the sea, as much land, as he could cover by the flight of an arrow, discharged from his bow. These particulars are stated with some fulness.

2. Having settled the country, he called in *Brahmans* from the *Arya-vrata*, and located them in the country: according to this document, he advised the calling in of a king, from the *Chola* country. The document omits any mention of the fishermen made *Brahmans*, or of his displeasure against them. In other documents, the calling in the *Brahmans* from Hindustan is ascribed, not to *Parasu-Rama*, but to *Mayura-verma*.

Two Sanscrit *slocas* referred to, in the Telugu portion of this report, on examination, are found to be incomplete; and of no importance. There are imperfect lines, copied from different fanes, in the *Bhat-Malayalam* character, but the dates are only of the *Collam* era; and they offer no information of consequence.

Manuscript book, No. 12.—Countermark (torn of), *Vivecca Sindhu*, intellectual wisdom.

A theological series of instructions, from a preceptor to pupils, written in the Balband character, and remaining in extremely good preservation.

Notandum.—The second part of my sixth report is thus concluded.

Madras, *November* 1838.

VII.—*Notes, principally Geological, on Southern India; from the banks of the Tumbuddra to those of the Cauvery.*—By Lieut. Newbold, 23*d L. I.*

A line drawn from the confluence of the Tumbuddra and Hogri rivers, passing southerly, and a little westerly, through Bellary, Raidroog, Chittledroog, Sera and Chinraipatam, to the fortress of Seringapatam, will give the reader a tolerably correct idea of the route, on which these notes were taken. On my return, a route a little to the east of this, by Bangalore, was pursued.

A wide expanse of sand, apparently more than a mile in diameter, marks the junction of the two rivers just alluded to. A few granitic blocks and bosses rise from the surface of this arenaceous waste, on which may be traced distinct furrows, with a direction parallel to that of the stream. They possess all the appearance of having been caused, like the furrows on the Scandinavian rocks, adduced by Sefström among his evidences of a vast ancient flood, by the abrasion of pebbles, swept over the surface by the force of water. But these furrows are still in process of formation, and undergoing alteration, under the continually renewed action of the periodical monsoon. They are generally from one to two inches broad, coinciding in dimensions with those of the rolled pebbles, found in the river bed in this vicinity, the small size of which indicates the transporting power of the water not to be very great. The depth of the furrows varies; and, in some places, has been influenced by the hardness or softness of the rock in which they occur. A few tough quartz veins have successfully resisted the abrading process, and are seen standing out, in high relief, from the surface of the worn rock; some indeed, have even formed barriers across the furrows.

From the Tumbuddra to Bellary, the face of the country presents an extensive plain, gradually rising as the traveller progresses southerly. A little to the east of Kurgode, it slopes off gently to the east and west, as evinced by the course the lesser streams take on their way to join the Tumbuddra and Hogri. The anticlinal line, if I may so term it, is marked near Beylour, by a low range of hills, having a smooth outline, and running from Dasapur nearly S. S. E., and thence pursuing a N. by W. direction, towards the Tumbuddra. The rocky swells, and granitic elevations, in the vicinity of Tekkulkota, are situated within the limits of this line. Many of the springs and rivulets, that water the plain, abound in calcáreous matter, which is observed on their beds and banks, both as a nodular and travertine-like deposit. The soil covering the

surface, is the *regur*, more or less mingled with the debris of the subjacent rocks, and the calcareous infiltrations of springs. The substratum is generally decayed granite or gneiss, but in many places a thick bed of the nodular calcareous deposit, or of a conglomerate of the granitic debris, cemented by it, intervenes, as may be observed at Tekkulkota, in the wells of the village. Around the bases of the granite hills, the regur is generally covered by their alluvium, which is reddish and gritty. Crossing the plain in a southerly direction towards Tekkulkota, the granite is seen rising into clustered hills, both at this place and Sirragorra, having a general direction to the S. S. E., though confused when taken in detail. Salbandes of gneiss are observed in the plain, between these two places, and also beds of a chloritic and hornblende schist, running S. S. E., which alternate with the gneiss.

Kurgode.—At this place the granite again rises into hills, not remarkable for their height—direction more easterly than those of Tekkulkota. A well, about 50 feet deep, at a little distance from the base of the hills, affords the following section :—3 feet regur; 45 feet calcareous nodular deposit, cementing angular fragments of granite, and boules of basaltic greenstone ; 2 feet granite. The rivulets in this neighbourhood deposit a considerable quantity of carbonate of lime.

Bellary.—The fort of Bellary stands upon a convex mass of granite, the outline of which resembles the hull of a vessel reversed. Gneiss, imbedding garnets and iron pyrites, occurs in the plain : this rock, as well as the granite, between Bellary and the Tumbuddra, is cut by numerous basaltic dykes, the direction of whose main branches is generally easterly, inclining towards the south. From Bellary to Manchanhully, the route lies, as far as Halicundi, over the surface of a plain, intersected by date nullahs. A greenstone dyke is crossed to the N. E. of the latter place, and a little to the S. W. a range of hills, taking an east by southerly direction, composed of chloritic and hornblende schist.

Manchanhully.—Formation gneiss, and a fine grained granite, containing nests of black, brown, and silvery mica, in small scales.

Raidroog hills and Gorisamudrum.—The Raidroog hills are of gneiss and grey granite. Veins of iron ore (hæmatitic), and nests of mica, abound in the former. Direction of the hills N. by W.

Bomanhully.—The lowest rock here is of a reddish felspar, rapidly decomposing, traversed by beds of greenstone.

Chittledroog.—The hills on which the fort stands are a cluster of seven, terminating the northern extremity of a mountainous crescent. They are composed of a coarse-grained crystalline granite, containing a large proportion of quartz, black foliated hornblende, white and red

felspar, and a little mica. The general outline of these fortified heights resembles that of the rocks near Bellary: vast blocks, both rounded and angular, resting on a large convex plateau, and near the base forming caverns. The height of the most elevated has been calculated at 800 feet above the plain. The general direction of the range is N. by E.

Herrioor.—The bed of the Hogri here is of clay slate, into the composition of which, chlorite and a little mica, in minute darkish scales, enters; giving the rock a speckled appearance. Some varieties are compact, hard, and of a fibrous structure; others sectile, earthy, and dull. Thin fragments of the latter, held in a platinum forceps before the blow-pipe, fuse partially, but with difficulty, on the edges into a greenish grey enamel. The surface of the plain is undulating, and covered with fragments of the subjacent schists

Sera.—The country between Herrioor and Sera, is a succession of plains, the principal rock of which is gneiss, crossed to the E. by dykes of greenstone; beds of a hard mica slate occur, traversed by veins of ferruginous quartz, and quartzy iron ore.

Curbah.—From Sera, through Columbella and Chuloor, to the vicinity of Curbah, the surface of the country is an undulating table land, gradually rising towards Seringapatam—the formation much the same as between Herrioor and Sera.

Near Curbah, however, the principal rock appears to be of a white quartz, with talc disseminated. The whole has a schistose structure, common to many of the rocks in the vicinity of Seringapatam. A brown variety, with mica in spangles, resembles avanturine. Compact kanker and nodules of hæmatitic iron ore, are found here in beds, near the surface.

Belloor.—Approaching from Myasamudrum, the Mysore plain, or table land, is diversified by two low broken ranges of hills, of a fine grained grey granite, with small crystals of shining felspar. A coarse sort of gneiss is found in the beds of nullahs in the plain, with largish scales of silvery mica, and crossed by beds of talc slate with chlorite.

Near Belloor, these hills subside into a rocky swell, on which rests both masses of granite and gneiss. At Belloor, the lowest stratified rock I observed (18 feet below the surface), was gneiss abounding with small scales of glittering black mica. The strata were slightly inclined—dip west. Potstone, talc, and chlorite slate, associated with the gneiss, are found in the neighbourhood. Direction of the hills nearly due north.

Nagamungalum.—Plain—formation gneiss, with both white and pale red quartz. Dip of strata 41° to the westward. Direction north.

A little to the west of the fort runs a low ridge, with a smooth undulating outline—the formation of which is a variety of talc and mica slate with chlorite.

Sravan Belgola.—The road from Nagamungalum to Belgola, lies over a succession of low roundish hills of gneiss, abounding with large plates of silvery mica. The higher peaks and tors, as well as the rock on which stands the Jaina colossus of Gomutu Raya, are of granite. The latter rock is a steep convex boss, crowned by the usual detached, irregularly shaped masses of a fine grained granite, consisting of granules of cloudy quartz, and felspar of a pale rose colour, with small black scales of mica. The ascent to the temples and colossus, on the summit of the principal hill, lies over the steep convex rock, which is rendered slippery by the bare feet of the priests and pilgrims that frequent the place. I observed several inscriptions in Canarese on the surface. The temples and porticos are of simple, massive and elegant architecture, particularly the entrance to the quadrangular enclosure, in which stands the Jaina colossus. The effect produced by the first view of the statue on passing into the quadrangle, is singular and imposing; but a close inspection can hardly be gratifying to the eye accustomed to the exquisite proportions of the statues of Europe. It is about 70 feet high, entirely divest of drapery, in an erect position, facing the north, and has the curly hair, large pendulous ears and thick lips, so peculiar to Jaina images: the placid expression of the features reminds one of the head of Memnon: the legs are wreathed with the leaves of a parasitical plant (the ratimulla), sculptured in the granite, and together with the hands are clumsily executed. The opinion of the Duke of Wellington, that the rock had been cut down until nothing but the image remained, I found corroborated by the statements of the oldest priests, and a personal examination of the base. Two black slabs, bearing long inscriptions, copies of which are lodged in the library of the Literary Society of Madras, stand on each side the entrance into the quadrangle.

The village lies between the two hills; it contains, besides temples, a handsome Jain college, a large bouri, the white houses of the Shravaks, or Jain laity, and the dwellings of a few Hindus and Mussulmans.

Seringapatam.—The principal rock seen in the island of Seringapatam is gneiss, associated with mica and hornblende schist, and also with a schist which contains both these minerals combined with felspar and quartz. The best section of these rocks is seen in the fosse surrounding the fortress: as we proceed from the Wellesley bridge towards the Mysore gate, we

observe dykes of a silicious rock*, penetrating the gneiss, and in some places overlapping it for a short distance on either side the dyke. This rock, like the trap rocks of Bijapore, has a tendency to the schistous structure, and splits like them, when struck by the hammer, into angular fragments, the superficies of which, exhibit similar dendritic appearances, but more perfect. The fissures by which the rock splits (the dry cracks of European miners), as may be discovered by a microscope, and often even by the naked eye, are pre-existent in its structure, and resemble those in basalt and other substances, which have cooled, after being greatly heated. The dendritic appearances in igneous rocks have been ascribed to the infiltration of metallic oxides, and with more show of reason to electric currents, circulating through the pores of the rock; but in some instances, particularly in rocks of acknowledged aqueous origin, they assume so much the character of mosses and ferns, that it would be matter of some interest, if botanists would institute a minute enquiry into the forms usually seen in each rock, with a view of ascertaining the question of their organic origin. In rocks of a decidedly igneous character, the arborescent appearances are generally far less perfect than those in limestones, and other rocks of deposition; and will be probably found, as just remarked, to be occasioned by the metamorphic powers of electric currents, acting upon metallic particles disseminated in the substance of the rock. The beautiful arborescent outlines in mocha stones are now supposed to arise from mineralized plants of the cryptogamous class, and Dr. Macculloch has detected both in them, and the moss agates, aquatic confervæ, unaltered both in colour and form, and coated with iron oxide. An onyx agate belonging to the Earl of Powis, contains the chrysalis of a moth; and the red colour, observable in this class of minerals, has been discovered by M. Turpin to be owing to an insect, the *Protococcus Kermesinus*, in form of seminules, or red globules. M. Gaulty de Chaubry found, that when powdered cornelians were mixed with black oxide of copper in a porcelain retort, and heated to redness, carbonic oxide and carbonic acid were disengaged; and some pyro-acetic acid, and pyrogenic oil formed: proving that the colouring matter of the mineral is of an organic nature. Apologizing for this digression, I shall rest content for the present, by calling attention to this curious subject, expressing at the same time, my strong belief, that many appearances in transition and secondary rocks, hitherto considered

* This rock is probably identical with that described as a hornstone by Buchanan, and a silicious slate by Dr. Benza; the fissures imparting a schistous character to the rock, do not resemble the laminæ of deposition.

as inorganic, are, in truth, lapidifications of animal or vegetable matter.

The formation of the silicious rock is evidently posterior to the gneiss, as we see it, as before mentioned, not only slightly overlapping and penetrating it, but also penetrating the associated brilliant hornblende schist. It appears to be however, anterior to the intrusion of the greenstone dykes, in the *immediate* vicinity, one of which is seen in the fort ditch, slightly overlying it. It is generally of a greenish grey colour, tough, compact, translucent at edges, fracture semiconchoidal, sometimes containing minute shining felspathic crystals. Before the blow-pipe per se it whitens, and melts slightly, and with difficulty at the edges: fuses with carbonate of soda, with effervescence, into a greyish white enamel. An opaque variety, which appears to consist entirely of compact felspar, melts without much difficulty per se into a light grey enamel.

A dyke of red porphyry (noticed by Dr. Benza), is seen crossing diagonally the bed of the Cauvery, opposite the sally port, where Tippoo fell covered by the wounded and slain. The direction of the dyke is N. 40 E. It consists of flesh-coloured felspar crystals, imbedded in a paste of the same mineral, but of a deeper red, having a number of dark green acicular and prismatic crystals, resembling tourmaline, disseminated. The gneiss at the junction, presents few indications of alteration, beyond being rendered more compact and indurated. Large deposits of tufaceous kanker take place on the banks of the river, consisting generally of a whitish grey carbonate of lime, with a sponge-like structure, imbedding nodules of a more ancient formation, and a more compact variety ; also bits of felspar, quartz, &c., debris of the subjacent rock, and roots of grasses. The gneiss is traversed by pegmatitic veins of red felspar, and a light grey translucent quartz, which are themselves penetrated by thin veins of compact felspar, tinged of a faint pistachio green, probably by actynolite, a mineral generally found associated with the pegmatitic veins. The rock composing the green veins, before the blow-pipe, first reddens; secondly becomes black, and finally melts into a dark emerald.

Island of Seringapatam.—The island of Seringapatam is formed by the bifurcation of the Cauvery into two streams, which again unite a little to the eastward of their separation. It is about four miles in length, and about one and a half in breadth in the middle. Its surface is convex, sloping to the streams on either side. The fortress is situated on the western extremity, and the suburb of Shahr Ganjam, about the centre of the island. Near this in a cypress garden, stands the handsome mausoleum of Hyder and

Tippoo. This mausoleum is supported by finely polished pillars of a dark rock, containing black crystals, in a dark paste, rendered still darker by the oil, with which the pillars appear to be constantly rubbed. Buchanan thought these spots were dark crystals of basaltine, or augite, imbedded in the hornblende; and Dr. Benza, who subsequently visited the locality, is also of this opinion, adding moreover, that the hornblende rock of the dykes, in the fosse of the fort just described, is identical with that of the pillars. We are, however, informed by Buchanan, that the rock, from which the pillars are cut, was brought from Cudhully, near Turivicary, about fifty-two miles N. E. from Seringapatam.

After a careful examination of the pillars in the mausoleum, and a fragment of them given to my friend Captain Allardyce, by the mullah of the mosque, and of the rock in sitû at the quarry of Cudhully, near Turivicary, from which it was cut, during a subsequent visit to this part of Mysore, I feel assured that the hornblende rock of the dykes at Seringapatam, and that composing these beautiful columns, are by no means identical. Had they been so, the natives would not have gone fifty-two miles to quarry stone, which might have been procured on the spot. The Cudhully rock, and that of the pillars, is composed of a dark talcose paste, imbedding black crystals of a mineral, strongly attracted by the magnet. This paste is sectile, and infusible per se before the blow-pipe. The hornblende rock of the dyke on the contrary is hard, and fuses into a greenish black glass: the imbedded crystals of this mineral, decomposing, often fall out, imparting a variolated appearance to the surface. The geological situs of the talcose rock will be described in a future paper; suffice it to observe that it is associated with the talc slate.*

The Cauvery river.—The Cauvery at Seringapatam, during the rains, is a deep and rapid river; but easily fordable during the dry season: the bed is rocky and encumbered by large fragments of granite and gneiss. Its bed cannot vie with those of the Kistnah and Godavery, in precious stones, corne-lians, agates, &c. Granite, greenstone, and gneiss, imbedding corundum, and, though rare, the ruby, with its associated schists, are the rocks generally passed over by its waters. Garnets and iron ore are, however, frequently found in the bed; corundum seldom. This beautiful and sacred stream takes its rise among the Coorg mountains, and traverses the peninsula in an easterly by southerly direction. After watering a large part of Mysore, it descends into Coimbatore at the falls of Sivasamudrum, and, passing Trichinopoly, disembogues its waters through various channels into the Bay of Bengal, between Porto Novo

* See note on this subject at the end of this Journal.—*Editor.*

and Adrianpatan. It contributes immensely to the fertility of the countries through which it passses ; its waters are conveyed into the fields principally by means of water-courses, and anicuts, constructed at a vast expence by the Hindu princes of Southern India. Two crops of rice are, in general, annually produced on its banks, besides large quantities of most excellent tobacco, sugar-cane, &c. The soil brought down by it is a fine rich clay, produce of the disintegration of the rocks over which it passes, and often mingled with a considerable portion of carbonate of lime, deposited by its waters, and decayed vegetable matter. It is navigated principally by basket-boats, and conveys the produce of Salem, Coimbatoor, and Trichinopoly to the sea.

Having reached our southern limit, we will now return northerly towards the Tumbuddra, by a different, though almost parallel, route, lying to the east of that just described.

From Seringapatam to Bangalore the formation is principally gneiss and hornblende schist, penetrated by veins of actynolitic and chloritic felspar. The rocks in the vicinity of Bangalore are granite, gneiss, and greenstone, in dykes, penetrating them generally in a west to an easterly direction. Tabular masses of a lateritic rock overlie the gneiss, a little to the N. W. of the cantonment. Passing from Bangalore, the geology of which I shall have occasion to notice in a subsequent paper, the road lies in a northerly direction, towards the celebrated stronghold of Nundidroog.

Nundidroog.—Gneiss, with a few clusters and detached hills of granite rising above the undulating level of the table land, are met with. The soil is generally a bluish red, loamy clay, and a quartzy detritus , abounding in ferruginous nodules—debris of the lateritic rock, which is seen on the surface in scattered patches. Near Yellavunkah I observed a mass of it covering the surface of the road, and again noticed it near Nundidroog, where it was partially employed, with other stones, in the construction of a bund of a tank. This contained much less quartz than the former, nor was it so porous. A little north from Deonhully, a hill, principally of gneiss in contorted strata, is seen, with a nearly north and south direction. Its southern extremity is crossed, from west to east, by two basaltic greenstone dykes ; the first of which bifurcates on entering the hill from the west: the larger branch pursues its course through the hill without much interruption, and sinks beneath the surface of the soil on the opposite or eastern side. Its breadth is from 15 to 20 yards. The rock through which it passes, particularly on the left side of the dyke, where it has a scarp of above eight feet high, has the appearance of a channel cut in the rock. The left branch of

the bifurcation gradually diminishes in width, till it finally disappears in the substance of the rock, after performing an easterly course of more than 200 paces. The second stream is not so wide as the first, and passes through a higher part of the hill. After cutting the summit and giving off one or two minor branches, it separates into a number of ramifications, which spread out, become thinner and shortly disappear. They sometimes cease abruptly, and re-appear at short intervals. Short parallel veins are observed at a little distance from, but having no connexion with, the main stream. These facts, which I have observed in other parts of India, and the disturbance observable in the rocks in which these dykes intrude, incline me to the belief, that the primitive rocks, in which they are found, must have been in many cases, riven in a nearly solid state by a force from below, the vibrations of which proceeded nearly at right angles with the poles of the earth, and thus formed vents for the liquid basalt, struggling up from beneath. That the imbedding rock is not contemporary, and did not exist in a state of fusion with the basalt, is indicated by the wall-like escarpments, cut shear, as if by the chisel, through the former, into conduits for the escape of the latter. There is here no passage of the one into the other; a decided line of demarcation exists throughout. Veins of quartz and felspar existing in, and apparently coeval with, the granite itself, are seen divided by the basaltic stream, and solid fragments of the former imbedded in its course. Others, still larger, are frequently entangled between the ramifications of the basalt; and, in detached blocks, occasionally resemble a vein of granite in the basalt.

In conclusion of these remarks, I may add that, in dykes of considerable width, both sides of which are bounded by walls of granite, the latter rock becomes altered, as though by igneous agency, whilst the former, on its approximation, becomes compact and comparatively dull, the consequence of sudden refrigeration from coming into contact with the granite. Towards the centre of the dyke the basalt becomes more granular and crystalline, and sometimes porphyritic, imbedding crystals of a greenish felspar: acicular crystals of augite occur in both. The surface has a slightly blistered appearance. Where basalt is found encrusting gneiss, its edges are found graduating into a thin coat of greenish eurite, the surface of which is frequently vesicular, the cavities containing a yellowish brown powder. This euritic basalt acquires a greyish green hue, imbedding small crystals of epidote and frequently yellow iron pyrites. It also retains a portion of the augite; exchanging the dark crystals of hornblende for the light green epidote. Angular masses of dislocated granite, with fragments of the basalt adhering

to them, are frequently found in the vicinity of these dykes. The deep vertical fissures, we often see cleaving from summit to base whole hills of granite, divide also the basaltic veins. At what period these fissures and dislocations have occurred—whether from foreign disruptive causes, or from that spontaneous separation, to which it is well known granite is subject, is difficult to determine. It seems certain that they are posterior to the irruption of the basalt.

The rock of Nundidroog rises to the alleged height of 1,700 feet above the surface of the plain, at the southern termination of two ranges of hills. The western range has a N. W. direction, the eastern proceeds nearly due north, until it approaches Purniah Chatram, whence it bends its course to the N. N. E. to Worralconda. From Worralconda it extends northerly to Sondoo; thence sweeping to the N. W. it enters the Ceded Districts. A range is observed some miles to the east of Purniah Chatram, which has hitherto a N. E. direction, but here bends towards the west. The valleys, as in the Nundidroog range, appear to cross the line of direction, their course being nearly east and west. A hill called Chinna-raya-conda, a little north of Nundidroog, and the next in the range, was pointed out to me as the site of the sources of the rivers Pennaur and Palaur. The former takes hence a northerly course, and falls into the Bay of Bengal, near Nellore. The latter pursuing a southerly course to the east of Bangalore, adds its waters to the ocean near Sadras. This fact, if it does not prove this to be the highest part of the table land of Mysore, demonstrates the descent of the land hence to the north and south.

The hill of Nundidroog is a mass of granite, on the sides of which rest blocks of the same rock, and dislocated masses precipitated from the summit. Among them are occasionally seen globular and angular blocks of trap, indicating the vicinity of a dyke. At the base granitoidal gneiss is seen near the summit, impending cliffs of granite and sienitic granite rise to the apparent perpendicular height of 60 or 70 feet above the rest of the rocks, cleft by vertical fissures, and without the slightest appearance of stratification: this rock contains both a brownish and white felspar: a small grained sienitic variety with a light green chloritic hornblende also occurs. But the variety which predominates has crystals both of a translucent (albite) and opaque whitish felspar; the latter projecting on the surface give the rock a peculiar white mottled appearance. Porphyritic veins imbedding large crystals of foliated felspar, with plates of a dark green mica, intersect this last rock.

Worralconda.—From Nundidroog the road passes through Purniah Chatram and Worralconda, along the eastern flank of the Nundidroog chain, some spurs from which are crossed *en route*. The Meta-Meyrecotta ranges lie some miles to the right. The formation, as far as I was enabled to judge from the examination of the spurs just alluded to, and of some detached masses, and the appearance of the peaks of the highest hills, is similar to that of the hill of Nundidroog. Several greenstone dykes cross the plain, from west to east, between the two ranges. One, close to Worralconda, has a northerly direction. I followed its course some distance beyond the village, in the expectation of seeing it unite with a large westerly dyke, of which I supposed it to be a branch, but was disappointed by its dipping beneath the soil, and thus eluding my search. Retracing my steps south of the village, I had the satisfaction to see this surmise verified by its joining the main westerly dyke. Ascending a large mass of granitoidal gneiss composing the Worralconda hill, I observed another, but smaller dyke traversing the rock in the same direction. This also joins the main dyke a little south of the hill —it exhibits brass-coloured pyrites, and needle-shaped augite crystals. Flanking the larger dyke, beds of both a red crystalline and compact felspar occur, with quartz and thin veins of chlorite, as well as a greenish eurite which appears to owe its colour to epidote. This eurite graduates into basaltic greenstone, like that of Deonhully. Magnetic iron sand is obtained from the beds of the nullahs in this vicinity, and indeed, throughout the taluk, and smelted.

Baugoopully.—The Nundidroog range appears to terminate a few miles N. of this place, as the Polla range on the right is approached. Several trap dykes stretch across the plain, between the two ranges, with an easterly direction. One of them a little to the west of the deserted village of Mangsundrum, gives off branches to the north and south. The latter throws off a vein, which, entering into a convex mass of gneiss, spreads out into numerous, and occasionally intersecting, ramifications. About a mile south of Baugoopully the plain is strewed with bits of ferruginous quartz, reddish felspar, with fragments of a compact actynolitic vein: a little farther on, the latter is seen in the bed of a nullah, partly lying in lamellar masses on the top of weathered gneiss, and partly in thick veins, running a W. N. W. direction, and having a dip of about 40° to the south. Between it and the gneiss, I observed a layer of a reddish felspar and quartz, varying from half an inch, to several feet in thickness. This frequently becomes veined with the lively green of the actynolite, and acquires a schistose character. The actynolite rock, *vice versâ*, imbeds crystal of a flesh-

coloured felspar, forming an elegant porphyry. Green mossy looking crystals of actynolite may be seen between the porphyry and the embedding felspar rock. Veins of a transparent quartz intersect it, and near them occur imbedded cubic iron pyrites; iron ore in reddish octahedral crystals also occurs. The rock imbeds pure actynolite, in long striated diverging crystals, filling up small cavities, and shooting out on the surface. The rock is remarkably tough, heavy, generally crystalline, but sometimes compact as eurite; translucent slightly at the edges, fracture uneven. The superincumbent soil is red; beneath it is a detritus of ferruginous quartz pebbles, pieces of actynolite slate, felspar, pisiform iron ore, and a few rounded fragments of basaltic greenstone, which exfoliate in concentric layers. In most of the fragments, even in the gneiss itself, I observed a tendency to assume a pentagonal and hexagonal form. I also picked up a crystal of corundum imbedded in a brownish talc. A greyish brown kanker is found on the banks of the nullahs.

Close to this place, crossing the rocky hills from east to west, I observed a broad dark band descending the hill side, which I took to be a basaltic dyke, since directly west of it we crossed one in the plain, exactly in the line of its direction. This I found to be the case on ascending the hill, which was composed of porphyritic granite, in large unstratified masses, with crystals of a magnetic iron ore disseminated, generally grey, but sometimes imbedding shining crystals of red felspar. The summit is crowned by vertical masses of this rock, having a tendency to exfoliate in thick layers. Near the base is a convex mammillary mass of the same rock, in which the crystals of felspar and nests of mica had a nearly common direction viz., north and south, following the line of elevation of the hill itself. The dyke of basalt passes completely over it, at right angles with its direction, and is seen crossing the plain on the other side to the eastward. Its breadth at the base of the hill is about ninety paces, and at the anticlinal line of the ridge about seventy. Over the southern extremity runs another dyke, or a branch of the one just described, of much less width. Both are distinctly visible at a considerable distance passing through the grey cliffs like the dark stream of a muddy cascade.

From Baugoopilly to the frontier of the Ceded Districts, the formation is gneiss, crossed by numerous basaltic dykes, throwing off ramifications to the north and south. Flanking the dykes are seen veins of the red felspar and quartz rock, imbedding actynolite slate, and the porphyritic actynolite. The gneiss strata are nearly vertical; general direction north and south. It is interstratified with the micaceous hornblende schist, and intersected by pegmatitic veins of red felspar and

quartz. A magnetic iron sand is found in some spots on the road in the vicinity of the trap dykes, which has probably resulted from their decomposition. Most of the basaltic greenstone found here slightly affects the magnet.

Palsamudrum.—From the Mysore frontier to Palsamudrum, the formation is thick bedded, or granitoidal gneiss, in highly inclined strata. Masses of granite occur detached, precipitated apparently from the peaks in the vicinity. The gneiss is intersected by basaltic greenstone dykes, running generally in an easterly direction, from the Polla range on the right, across the plain, towards some outliers of the Nundidroog chain on the left or west. A few of these dykes take a north and south direction, but appear to be ramifications of the former. Veins of actynolite slate, generally flanked by pegmatitic beds of a red felspar, with a transparent quartz, traverse the gneiss in the neighbourhood of the greenstone dykes, with whose direction they in a great measure conform. Kanker is seen in compact nodules, both of a grey and reddish colour, on the banks of the nullah; and, though rarely, forming small mammillary mounds, apparently around the mouths of the extinct or dried up springs by which they probably have been deposited. A few miles south of Palsamudrum, flanking the greenstone, I observed some angular blocks of sienitic granite, consisting of an opaque felspar imbedding crystals of schorl, with a little grey quartz.

The basaltic greenstone in every way resembles that of Baugoopilly. The augite crystals on the surface decay into a reddish white earth, which, falling out, leaves the cavities observable on the surface. Crystals of felspar imbedded in it are subject to similar decay, leaving larger cavities. Magnetic iron ore, in crystals, is found in most of the rocks of this place.

Terimany.—From Palsamudrum towards Jaulipett, the road lies principally through a valley between two short ranges, apparently of gneiss and granite, which run in a north and south direction. The valleys or breaks form acute angles with the line of direction. The hills are rocky masses, covered with their own exfoliated fragments, and destitute of vegetation, save a few bushes principally of cacti, euphorbia, and mimosa. Emerging from the valley a little south of Jaulipett, the indented outline of a long range to the west, pursuing a parallel course to those on the east, appears on our left, at a considerable distance. Spurs from both ranges are thrown across the plain, and form partial barriers. North of Jaulipett, the eastern range terminates in the rock of Pennaconda, about a koss and a half from Goghirry. A few detached outliers continue nearly to Terimany. The western range still bounds the horizon to the left, preserving a deeply indented outline. The gaps in both the ranges seem to have a parallel direction. Indications of

the regur appear in this vicinity, and abundance of a whitish grey kanker. Gneiss, interstratified with micaceous hornblende slate, is the principal rock found in the valley, and on the plain. Strata nearly vertical —direction northerly—dip to the east. In a nullah near Somundapilly, is a bed of gneiss, with actynolite in tabular friable crystals, with the usual band of felspar and quartz intervening between it and the gneiss; the latter rock in the vicinity of the bed is contorted. A dyke of basaltic greenstone running east and west was not many paces distant. Both this rock and the actynolite are not so often seen.

Magnetic iron sand, is procured in the neighbourhood of Paupreddy, a village about five miles from Palsamudrum, and there smelted. I saw only one furnace, which is of much smaller dimensions than those at Kootul in Mysore. There are furnaces, I am told, at Niddamaumri, in the adjoining taluk of Pennaconda. I observed a few patches of regur in the low grounds about Jaulipett. The gneiss, about this place, where it has been penetrated by the basaltic dyke, is solid and compact, resembling close grained granite. A greenish eurite in thin veins traverses many of the blocks, giving them a schistose structure.

The gneiss frequently imbeds large crystals of a white felspar, which impart to the rock a porphyritic appearance, singularly contrasted with its own lamellar form, and can scarcely be judged of in a hand-specimen. A greyish white, and rather friable kanker, is found at a little distance beneath the surface, in beds about a foot deep, and penetrating the subjacent gneiss. Near Raichoor I saw a rude stone and clay furnace for burning it into chunam, about four feet high and 20 inches in diameter. Salt-pits are excavated on the banks of the nullahs. N. E. of Goghirry at the foot of the hill of *Shah-durgum*, lies a low hill, crested with dark looking rocks, visible at a great distance, which are easily recognized to be part of a basaltic dyke. It is shortly afterwards crossed about half a mile to the east of the hill, and is about 30 paces broad—direction, east. Two others of less dimensions are crossed shortly afterwards: they have a similar direction. Fragments of actynolite slate are frequently picked up, and it may be seen in thin veins traversing the red pegmatite. A section of a well at Terimany, about 25 feet deep, presents the following strata: 3 feet gravel; 4 feet grey earth; 18 feet beds of red felspar and quartz, with decaying greenish earth, and friable kanker in veins and fissures.

Gneiss is, as before remarked, the prevalent rock: at the same time it must be observed, that blocks of granite, and a red quartz rock, resembling that cresting the sandstone and clay slate formation of Cuddapah, are seen in the walls of the fort and choultry, probably brought from the range north of Anantipur, which appears to be a continuation of the sandstone ranges of Gooty.

Peroor.—At Peroor, a village situated upon the eastern bank of the Pennaur, the range on the right ceases altogether, while that on the left or west (the Condaganpilly range), wears a smoother aspect, and turns off to the west. The quartz rock mentioned at Terimany, here occurs in sitû, in a bed of a nullah, a little to the east of the fort: it rests uncomformably in almost tabular masses on the surface of the gneiss. It is both massive and schistose, according to position; massive when seen in blocks protruding from the surface of the soil, and schistose, generally, when found in contact with the gneiss. A thick bed lies at the bottom of the nullah. In structure it varies from that of gneiss, to that of the red granular quartz rock of Cuddapah, and contains but a minute portion of mica. The gneiss is generally much weathered, and abundantly seamed by incrustations of kanker. Its strata are not so much inclined as hitherto, having a dip of about 25° to the E. S. E.—direction as before. Beds of the micaceous hornblende schist are seen, commonly with the same dip and direction as the gneiss. The greenish eurite and accompanying pegmatitic veins, like the basalt, frequently intersect the line of direction at considerable angles. They are of more recent date than the quartz veins, as is shown by their passing through them. At the points of contact, faults or dislocations are sometimes seen in the latter; an instance occurs in the gneiss of this nullah. The dislocation is of a few inches, in a W. N. W. direction. Granite is still seen in detached masses. Beds of the micaceous hornblende rock are observed in the wells, disintegrating into a greenish friable substance, and exhibit various stages of decomposition in the same mass. The mica is seen more distinctly in the decayed portion; it changes to a silvery brown which gradually loses its brilliancy. The hornblende decomposes with the felspar, into a light dirty green friable rock, mottled with ferruginous spots. Probably the hornblende is combined with actynolite, which not only gives the rock a schistose character, but imparts much of the green in decomposition. The eurite near this mass does not appear to be in the slightest degree altered. This rock, like basalt, is more crystalline in the middle of large veins. In small veins it becomes compact, heavy, extremely tough, and shows a disposition to split into rhomboids. Crystals of epidote occur in the gneiss near the greenstone dykes.

Rampur.—This place is situated on the right, or western bank of the Pennaur, which is here upwards of 200 paces broad, taking a bend to the east. Its bed is of sand, from which the subjacent gneiss and micaceous hornblende slate occasionally protrude. The surrounding country consists of undulating plains, interspersed with a few scattered

hills. The ranges running to the north are no longer visible, except a few peaks above the western horizon. The formation is much the same as at Peroor, but the micaceous hornblende schist is more abundant. Fragments of schist, felspar, and ferruginous quartz cover the surface. Among the debris I picked up several bits of a ferruginous jasper, and potstone, translucent, of a faint green, and imbedding plates of mica. Potstone is said to be dug, not very far off, at a place called Reddorpilly, in the Durmaveram taluk. A hill of gneiss, about one and a half mile in a north west direction from the village, is intersected and entangled in a singular manner, by two basaltic greenstone dykes, or the branches of a very large one having severally an east and an E. N. E. direction. I observed two of the ramifications cutting through beds of the micaceous hornblende schist. The mica and felspar of this rock are altered by contact, much in the same manner as granite and gneiss. The gneiss of this hill contains both red and white felspar, and large nests of glittering micaceous hornblende, veined by the red felspar. Porphyritic veins of this mineral with translucent quartz occur, having crystals of a highly magnetic iron ore disseminated. Some fragments of gneiss have a schistose appearance, from the presence of actynolite or crystallized talc, or both. Talc in its crystallized form imparts a schistose structure, as before observed: and in its earthy form, it softens the gneiss, gives it a green tint, and a slightly greasy feel. This may be observed in the fragments in the walls of the fort.

Gollah.—Formation same as at Rampur; between it and Gollah one or two basaltic dykes are crossed, which, with a single exception, had an easterly course. Natron occurs in the beds of the rivulets, and a quartzy magnetic iron ore is found imbedded in the micaceous hornblende schist: the latter is smelted at Almireddypilly, and at four or five other places in this taluk (Durmaveram). The wrought iron sells at about 2 rupees 6 annas the maund of 48 seers, each seer weighing 24 rupees.

Bellagoopah.—This place is interesting on account of the great regur plain of Bellary having its commencement some distance to the S. E. of the village. Hitherto it has been seen only in detached patches, generally occupying banks of rivulets, and other low grounds: now it occurs spread out in one vast and almost uninterrupted level sheet, extending in all directions from the edges of the detrital soil, that forms a broad belt at the base of the hills to the westward.* The interruptions of the regur, when they do occur, will be found generally on the summits of the rocky swells, which are covered with a red

* The *jatropha glandulifera*, a low shrub, almost peculiar to the regur, is now more frequently observed.

soil arising from the detritus of the subjacent or protruding rocks. About 2 miles west of Bellagoopah, are two long hills, running nearly parallel to a broken range at a considerable distance to the west, with a W. N. W. direction. These hills are the last that appear in view; beyond them extends one broad expanse of plain. They are of gneiss with red felspar, and a hard dull mica: both white quartz and felspar occur: the red however, gives the general colour to the rock. Thin actynolitic veins are seen traversing it, though rarely. A basaltic dyke passes through the northernmost of the hills in an easterly direction. It has a dull green tint and imbeds iron pyrites. The hematitic and granular iron ore are scarcely seen, and the natron deposit becomes rarer. Common salt is got in abundance; both this, chunam, and saltpetre are manufactured at a village at a short distance hence. A loose block of a dark dull siliceous green rock, with waving lines of a light colour through its structure, occurs in the plain.

Regarding the manufacture of saltpetre, the natives of the locality were a little delicate in furnishing me with information. At first they said it was brought from the jungle, together with the earth from which common salt is washed. Next, that it was not procured from the jungle at all, but on the spot: and then that it was never to be found but in and about villages. On enquiring the reason for this, they gave evasive answers, but at last reluctantly confessed that it was got from earth saturated with urine, and other animal matter; which, with ashes and other refuse, are thrown together and allowed to remain till, I presume, the nitric acid produced by the decomposition of the animal matter combines with the alkali of the wood-ashes, and produces an impure nitrate of potash—the saltpetre of India. The process is something different to that for obtaining muriate of soda. The mass of earth is washed with water; which, after dissolving its saline contents, is evaporated to a certain extent by boiling. The solution of a dirty brown colour, is then poured into a cistern lined with chunam. Small branches and bushes are put in, on which the salt crystallizes. They are then taken out: the salt separated, either washed and re-crystallized, or dried for packing. It is sent to the Bellary and Madras bazars.

The direction of the strata at Bellagoopah is N. N. W—dip of 25° to the N. E.

Honoor.—The sections of the soil in the rivulets near this show a stratum of regur from 2 to 5 feet in thickness, lying on gneiss, micaceous hornblende slate, or the pegmatitic beds enclosing veins of a greenish eurite. In a bed of a rivulet I observed a basaltic greenstone dyke,

cutting through the gneiss, and the micaceous hornblende slate in an easterly direction. That of the gneiss and schist was here nearly N. W. The basaltic greenstone divides into its usual rhomboids, which again separate on percussion, exhibiting a hard globular nucleus. Furnaces for expelling the carbonic acid of the kanker, and reducing it to lime, are seen on the beds of the rivulets.

A little south of Honoor are the dunes described in the 23d No. of this Journal.

VIII.—*Essay on the Creed, Customs and Literature of the Jangams.*—*By* C. P. Brown, *Esq.*

The various Braminical creeds prevailing among the Hindus, as well as those of the Jainas and Buddhists, have been amply illustrated by Colebrooke, Wilson and other learned writers. It remains to enquire regarding the anti-braminical worshippers of Siva, who are called *Jangams*, Vīra-saivas, or Lingadharis, who are easily recognized by their wearing a small idol, either hung on the breast or bound on the arm. These are the disciples of Basava whom they regard as a form of the god Siva. They are widely spread throughout the South of India, among the Canarese, the Telugus and the Tamils.

Dr. Francis Buchanan, the Abbe Dubois, and Colonel Wilks have given short notices regarding the Jangams, which are summed up in Professor Wilson's Essay on Sects, in the seventeenth volume of the Asiatic Researches. But the information collected regarding the Saivites being far from sufficient, the learned professor did me the honour (when I was his guest at Oxford, in 1836) to desire me to obtain further information on points which remained very uncertain for want of sufficient enquiries made in the peninsula of India. On returning to Madras, I accordingly resumed an enquiry regarding the Jangamas, the only saivite sect who deviate from braminical usages.

Among Bramins the Smartas (followers of Sancar Achari) are generally called saivites, but are in fact free-thinkers, equally willing to adore Siva and Vishnu. Their creed may be found in the Mahabharat, the Bhagavat and the Rāmāyan, all of which are entirely rejected by the disciples of Basava. There are indeed, some few Siva Bramins who officiate as priests in the Siva temples, but I have not heard of any peculiarities prevalent among them. They certainly are different from

the Smartas, who refuse to receive the holy water and rice (tirtha prasād) from their hands.

The Vīra-Saivas are divided into two sects: one is semi-braminical or high-church, called A'ra'dhyas. The other is anti-braminical, and is called Jangam. The Aradhyas claim to be descendants of saivite bramins, and between them and the Smartas there is a certain degree of reluctant intercourse: founded upon the rites of initiation (upanayanam) which both parties use.

A brief outline of its history will enable us to understand the present state of the Vīra Saiva sect: this is amply narrated in their poetical chronicles, written in Canarese and Telugu. When divested of fabulous decoration it seems that their creed was found by Basava, whom they adore as their one deity: looking upon him as an *avatar* or incarnation of Siva, the god of this creed.

Basava was the son of a Saivite* bramin, named Mandenga Madamantri, at Hinguleswaram, a village near Bagwari in Belgaum, in the Southern Mahratta Country. When he was a boy he refused (they allege) to wear the braminical thread, because the rites that confer this mark of *initiation* require the adoration of the sun in the manner prescribed by the Vedas. Perhaps in truth he did assume it, but if so, he subsequently renounced it. Shortly after this time he escaped from his parents, and accompanied by his sister Acca Nagamma, he fled to *Calianam* or Kulyan,† the capital of the Carnataca country, where the reigning prince (A. D. 1155 circ.) was Bizzala or Vijjala, a Jaina by religion whose minister a bramin, was Basava's maternal uncle: he bestowed employment on Basava, and ultimately gave him his daughter in marriage.‡ At his death Basava succeeded to his office, and gradually usurped great power.

It would seem that at this time he began to compare the opposed statements of Jainas and Bramins: and perceived that both creeds were

* The Aradhya bramins pretend that his father was an Aradhya. This the Jangams deny, asserting that the title Aradhya was assumed only when the bramin rites were renounced, and we no where find Basava denominated as an Aradhya.

† See Mr. Walter Elliot's Essay in the Madras Journal for 1838, page 212, or in the Journal of the Royal Asiatic Society 1837 No. VII. p. 22, wherein it appears that some of the names herein mentioned are differently written in different Telugu and Canarese authors. Compare also the statements made by that zealous and intelligent antiquarian Lieut. Newbold, in his report upon the Southern Mahratta Country, printed in Pharoah's Madras Almanac for 1840, page 352. Calyanam is in the Nizam's country, 35 miles W. by S. from Beder. For this and a few other notes, I am indebted to Lieut. Newbold, who did me the favour to peruse these pages.

‡ This proves, in my opinion, though opposed to that of his followers that he did not lay aside the braminical thread in childhood. For had he done so no bramin could have given him his daughter in marriage.

idolatrous. It is also possible that an observation of the Christian faith in the neighbouring country of Malayala may have led to his seeking a better creed. At all events he determined on getting rid of the braminical priest-craft, and accordingly refused to worship any deity but Siva, whose image, the lingam, is the most ancient idol known among the Hindus.

This symbol is as separate from indecency in the Hindu mind as circumcision is in the Mahomedan mind. The Bramins with their usual love of filth have connected a variety of obscenities with the linga worship, but these are wholly unknown to the Jangams who look upon this idol just as the catholics do upon a reliquary, with deep veneration

> Hanging a golden stamp about their necks
> Put on with holy prayers.
>
> *Macbeth*, iv. 3.

The image erected in the Saiva temples being denominated Sthavara Lingam, or the stable image, he denominated this reliquary the Jangama Lingam or Locomotive image: a phrase borrowed from the Vedas, where it is used for living being. Hence he and his followers are denominated Jangams, or living images of the deity.

Before we proceed to describe his doctrines, we will give in a few words, the rest of the history of Basava, still referring our readers to Mr. Elliot's Essay (which gives the Jaina account), and to the Basava Puran which relates the story as told by the Jangams.

Basava's determined opposition to the Saivite Bramins and to the Jainas raised him many enemies: while his bounty to the poor gained him friends equally numerous. At last the prince's jealousy was roused, and a civil war ensued wherein Bizzala was slain A. D. 1168*, and this event was soon succeeded by the death of Basava who, according to his followers was " absorbed into the image" or vanished: while the Jaina account declares that he fled to Capila Sangam where the Malparba and Krishna rivers meet, about 104 miles west of Bellary.† This event was coeval with the murder of St. Thomas a Becket.

The name Basava is a very common one among Hindus: the Jangams have taken occasion from their teacher having borne it to feign that he was an incarnation of Nandi or Basava (the Apis or bull appertaining to Siva or Osiris), and this has been the source of numerous idle legends on the subject.

* For this date I am indebted to Mr. Elliot who ascertained it since the publication of his Essay. It corresponds with the Saca year 1090.

† See Almanac as above, page 354.

At his death his nephew Chenna Basava became the principal teacher of this sect, which has in the following six centuries spread very widely among the Canarese, Telugus, Tamils and Mahrattas. The books concerning this sect were originally written in Canarese, but have been translated into the languages now named. Those which I consulted are written in very elegant Telugu verse.

By perusing their books and observing their customs, we may plainly see the grounds of that hatred in which Bramins hold the Jangams.—Their leader Basava was the resolute opponent of every braminical principle. The Bramins inculcate the adoration of many gods. He declared that there is one sole deity. They venerate goddesses and subordinate beings. They reverence cows, hawks, monkeys, rats and snakes. They use fasts and feasts, penance and pilgrimage, rosaries and holy water. All these he renounced. He set aside the Vedas which they venerate. They declare Bramins to be literally gods upon earth, women to be vastly inferior to men in all things, and parias to be utterly abominable. Basava abolished these distinctions. He taught that all men are holy in proportion as they are temples of the great spirit; that by birth all are equal; and among those whom the Jangam books describe as saints, we find not a single Bramin but many parias and many women. In the braminical writings, the gentle sex are usually treated in a manner abhorrent to European feelings. But in the Jangama books we find a very different temper. Here we find woman raised to her proper station in society, such as she holds among Christians, being treated honourably with a respect and delicacy which form a strong contrast to the modes of expression we find in the braminical volumes.

Indeed the considerate and decent behaviour of the Jangams toward the female sex, is a very pleasing peculiarity which entirely divides them from other classes of Hindus. A Jangam once pointed out to me that the manners of the native Christians towards women exactly resemble those of the Jangams. In the eighth chapter of his work, the Abbé Dubois has spoken with indignation of the impure customs, as he calls them, of this sect; but strongly as he speaks against Bramins he evidently wrote under their influence; and in thus condemning the Jangam customs regarding women, he omits to observe that in these very respects Christians are equally reviled by Bramins: who certainly are much more scrupulous in their pharisaical precision regarding the outside of the cup and the platter than are either Christians or Jangams.

The following particulars regarding marriage, may give some insight into the social state of the Jangams.

The forms of contracting marriage are the same as those which are used among other Hindus. Certain prayers *(mantram)* are read, and the *tali*, or bit of gold, is attached to the bride's neck as usual.

But it is not imperative to betroth the parties in childhood, as is the rule in other castes. The Aradhyas adhere to the braminical rule, but the other castes of lingadharis often let the wedding or betrothment take place after the bride is grown up. Like other Hindus they permit polygamy, if the first wife be childless. But the second nuptials cannot take place without her consent.

Marriage is imperative among Bramins. It is merely voluntary among the Jangams.

A widow is treated with every sort of kindness and respect. Her head is not shaven, and she is permitted to marry again.

The Bramins exclude a widow from society. There is no such prohibition among the Jangams: who however, agreeing with others of their fellow countrymen do not permit her to wear the jacket, perfumes, paints, black glass bracelets, the nose-ring and the silver toe-rings: for these form the specific garb of a wedded woman. But in various tribes of Lingadharis some of these rules are laid aside.

A woman of piety is just as fit as a man to confer instruction in the creed. The Jangams always receive and return the bow or salutation of every woman, just as happens between man and man. For, they observe, were we to offer her any insult it would be an insult to the image of the god which she wears. Nothing but a breach of chastity can lose her the title she possesses to gentle and honourable treatment.

On Sects in this creed: and rules in regard to Eating.

Though the Vīra Saivas declare themselves entirely free from the bonds of caste, we shall perceive that their liberation is but partial.

They cannot eat with any one who refuses to bless the food in the name of Basava: for they look upon others as heathens.

And they refuse to eat with an Aradhya, because being a Bramin he is an idolater in their eyes by reason of his prayer (gayatri) addressed to the sun. For the solar worship is an essential part of the braminical creed.

And the Aradhya, as he refuses to lay aside his caste cannot of course eat with men who eat with parias. Thus each sect is equally unwilling to admit the other to equality.

In other sects of Hindus, the Bramin takes precedency, and is allow-

ed every honour. In this one he is looked upon as an inferior, and as only a pretender to being in the faith.

To this subject we must return when speaking of the Aradhyas:—meantime it is requisite to point out that the Jangams, who totally reject the Bramins, class themselves as *Sāmānyas* and *Visēshas.*

1. The *Sāmānya* or ordinary Jangam is bound by no vow. He or she can eat flesh* and drink wine: they use betelnut, and can eat in any one's house. Only they are obliged to marry in their own caste.

2. The higher grade, opposed to this is the *Visēsha* or extraordinary: being the guru or teacher, commonly called Matādhipati or spiritual guide. All the rest are his disciples. He or she acquires this rank by taking a vow, the *greater* vow; which will be afterwards described. Any man or woman who is moral and devout is admissible to this rank: which entirely releases them from caste.

Further there are two classes of (bhacta) "worthies;" who are devotees, but do not as yet aspire to the higher grades.

1. Those (*Sāmānya bhactas*) who retain caste, and in other respects are the same as Sāmārya Jangams.

2. The (*Visēsha bhactas*) confirmed worshippers: these are under the *lesser* vow: which binds them to honour the "Guru, the Lingam, and the Jangam"—three phrases which they use as a summary of their opinions. For they ordain that every honour must be paid to "the teacher, the image, and the brother in the faith." And their bitter foes, the Bramins, acknowledge that the Jangams treat each other as brethren.

These *Visēshas* are entirely free from caste: and as they are found chiefly among the Cannadis, they are generally styled *Cannadīlu.*

Now as to eating:—the *Visēsha bhacta* will not eat in the houses of the lower sect. The Guru can eat in the houses of *Visēsha's* alone; who are entitled to sit with him at dinner. The rest cannot; they therefore sit a little way off. The distinction is that the *Visēsha* Jangams are teachers: and the *Visēsha* Bhactas are disciples.

All can eat in the house of the Visēsha, but *not in each others* houses.

These rules apply to both sexes: for men and women dine together.

Though the Aradhyas are bound to attend funerals, even those of parias, the Jangams (even parias) cannot eat with them even at the funeral dinner.

* Excepting of course that of the cow, which all Hindus look upon as we do upon horse-flesh.

I have mentioned that they bless their meals in the name of their god. The food is polluted if "a heathen" casts his eye upon it *before* it is blessed. But *after* the benediction is uttered they consider the food holy and are bound to eat it: it cannot be defiled by the glance or the touch of any person. Dining is termed *Siva puja*, or worship. For they think, with JEREMY TAYLOR that "God esteems it a part of his service if we eat or drink: so it be temperately and as may best preserve health."

On the Pandarams.

The Saiva worshippers among the Tamils are called Pandarams: these are not Vīra Saivas, nor do they wear the lingam or adore Basava. I name them here chiefly because they are often mentioned as being Vira Saivas whereas in truth they are (like the Smartas) Purva-Saivas, and worship the image of Siva in their houses. In his Essay, Professor Wilson has regarded this sect as Jangams, and has also included under that title the "gangeddu-vandlu" or mendicants who rove about, leading a bull gaily tricked out. But these are mere *Dasaris* or mendicant friars of the Vishnu sect, and have no connection with the Jangams. These may always be known by the bell and the fan they bear, as well as by their elegant dresses and gay appearance. Another Vishnavite sect who are equally opposed to the Jangams are sometimes mistaken for them are the çātānīs or Sartarnees who call themselves Vīra Vaishnavas. These men lay aside caste but are earnest devotees of Krishna, and accordingly are the firm allies of Bramins.

On "Guru, Linga, Jangam."

These three words comprize the creed of the sect, and evidently were intended to disavow every part of the braminical priestly tyranny. This mystic phrase is thus expounded. The image (lingam) is the deity: the Jangam is the wearer or fellow worshipper: and he who breathes the sacred spell in the ear is the Guru. Thus he supplies the link between the god and the worshipper, and ever after is looked upon with affection as the true parent: even more respected than the father according to the flesh. For, says the Jangam, I am one with the deity, and he alone is my father who conferred this unity on me.

Among Aradhyas the father himself usually confers the spell: in other castes it is thought improper to be the disciple of one's own father or mother.

The Gurus being devout persons usually separate from secular employment, subsist on alms or free-gifts. But it does not seem to be a

duty to support the guru, or to consult him, and own his authority in ordinary affairs. It is the duty of the Jangam to support and be a son to the guru or father confessor: but the guru never asks alms of those who are not in the creed. Several gurus are employed as paid tutors or clerks among the English, and of course receive wages: which would be unlawful were the employer a Jangam.

These rules regarding initiation are analogous to those used among Musulmans, wherein the teacher is called Moorshud, and the disciple (man or woman) is a Mooreed. The ceremonies used on that occasion are fully described in Dr. Herklots's " Customs of Musulmans," page 282. In each faith love of God, and benevolence towards brethren in the faith are the proposed objects.

Regarding the Aradhyas.

In other sects of Hindus the Bramin uniformly takes precedence of other castes. But among the Vira Saivas he is degraded beneath all others.

Hence there is a perpetual feud between the Aradhyas and the Jangams who (unless at funerals where all are bound to assist) treat these Bramins with contempt.

And as a reason for such behaviour they allege that the Aradhya is an idolater because in assuming the sacred thread he is obliged, in common with all Bramins, to offer adoration to the sun, whereas Basava ordained the worship of God alone.

The Aradhyas also give great offence by affecting a superiority over other castes. The Jangam is bound to be courteous to all: especially to fellow worshippers: and return a woman's salutation or bow just as heedfully as that of a man. But the Aradhya calls himself a Bramin: he salutes none but Bramins, and looks upon none else to be *Jangams* or brothers in the faith. He will not pay more honour to women than other Bramins do. In fact women are not much better off among Aradhyas than among other Bramins. If her husband dies a woman cannot marry again. Certainly her head is not shaved nor is she expected to die with her husband, but even this rite has been very reluctantly laid aside, and some Aradhyas have honestly confessed to me that they much regret the prohibition.

The rites of *prayaschittam*, and other sorts of purification and fasting, are as severely binding on the Aradhyas as on other Bramins. They assert that they religiously adhere to the carma canda, or ceremonial law. But they fail to establish this to the satisfaction of a Bramin.

Another point in which the Aradhyas widely differ from Jangams is their refusal to admit proselytes into their creed.

In the points now described it is evident that the Aradhyas have very reluctantly and imperfectly obeyed the laws given by Basava, who seems to have treated them leniently, admitting them into his creed in the hope that after a while they would be prevailed upon to lay aside the sacred thread, and the worship of the sun which is connected with it.

In course of time many of them have done so: and a guru who is one of my principal informants, is the son of a Bramin (an Aradhya), who saw the folly of caste, laid aside the thread and became a Jangam, wherein his instructor seems to have been originally a paria. But being a Visesha Jangam, of course he now is wholly independent of caste. In Sanscrit scholarship, and particularly in a ready acquaintance with the Vedas he is decidedly superior to an old Aradhya, whom I also employed; who however, is well acquainted both with the Vedas and the Agamas. In the midst of a discussion one day on caste the old man laid his hand on that of the Jangam guru, and said to me, " Sir if I could only lay aside this thread I could go to this good man's house, eat with him, and marry my son into his family !"

In all these discussions I observed that the Jangam treated the Aradhya with kindness, and perhaps pity, but certainly with no respectful deference. A learned Vaishnavite Bramin was present at these discussions, and observed to me that the Aradhya being half Bramin half Jangam was completely placed between two fires: and every concession which in the course of argument he might make to one party enabled the other to disown him.

Indeed so great is the antipathy between Aradhyas and Jangams that they cannot even write to one another: as the ceremonious civility of Hindus would oblige each to use expressions of regard which his judgment or his antipathies would forbid.

According to the Basava Puran and other leading books the Aradhyas manifestly are unsupported in their claims to superiority. For all the various (bhacta) " worthies," or saints, whose faith and deeds are extolled, are parias or shoe-makers, hunters or weavers. Not one of them is a Bramin.

And if they claim rank in consequence of Basava's having been the son of a Bramin this avails them nothing: as he laid aside his caste and became the willing servant of parias. In fact the Aradhyas being only half converts resemble the " Christian Bramins" we meet with at Madras, who are baptized, but continue to wear the braminical thread, and

are as much bound by caste as other Hindus are. Yet they are sincere believers in Christianity, and express a horror of idolatry.

Lastly it remains to speak of "the four Aradhyas" visionary personages of very great importance in the creed, but regarding whom I have not succeeded in obtaining any definite information.

Among Jangams as well as among Aradhyas, at all their various solemnities whether marriage, birth, initiation or funerals, four vases of water are solemnly placed in the name of "the four Aradhyas" or prophets.

These four sages are named R'evan Aradhya, Marul Aradhya, E'co' Rama Aradhya, and Pandit Aradhya. In four ages, it is said, these four successively appeared as precursors of the divine Basava.

And to this slender information only one point is added which is the source of perpetual contention. The Aradhyas claim these sages as being Bramins: which the Jangams deny, saying, these were our original teachers, and could not have disobeyed Basava who abolished caste.

The Aradhyas and Jangams who answered my queries, however frank in other respects are evidently in total ignorance about these venerated characters, who are spoken of in no book that I have met with. The Pandit Aradhya Charitra is named after the fourth prophet, but is merely written in his name, and is acknowledged to be a modern compilation.

The Siddhanta Sikhamani, written in Sanscrit verse on the Aradhya system contains a wild mythological tale tending to represent Revan Aradhya as a human appearance of one of the Pramathas or ministers of Siva. But this book is not considered good authority, and the legend is not current. I am also assured that the details are given in a book (supposed to be written in Canarese) named *Chatur matha Sthala nirnayam*, but I have not met with this book, and my informants know of it only by report.

Perhaps we may reasonably entertain a suspicion that these "four sages" are analogous to the four *peers* of the Musulmans, who are described by Dr. Herklots, in page 287 of his volume already quoted. These *peers* or canonized spiritual guides certainly bear Musulman names, but they play the same part, in the ceremony of making a Musulman *mooreed* that the four Aradhyas do in that of making a Jangam. They too, are described in an apostolical succession, and, to crown the analogy, nothing satisfactory can be ascertained regarding them, notwithstanding the high veneration in which they are held. *De non entibus et not apparentibus eadem est ratio*, and if these personages ever existed among the Jangams, how does it happen that these

four alone, of all the saints, are designated as Aradhyas? I confess that neither the Jangams nor the Aradhyas approve the solution I have here offered, and a decision more satisfactory may perhaps be elicited by further enquiry.

Regarding the Vedas.

It has been stated that the Aradhyas found their pretensions on the Vedas, which as they assert prove their authority as Bramins. To perceive the true value of these claims it may be as well to state the present practice regarding the Vedas; and the following statements are the result of many enquiries, as to the rules prevailing in the Telugu and Tamil countries.

Only a small portion of the Vedas is generally read among Bramins: it is read without the meaning being explained, and is in obsolete Sanscrit. The great rite or sacrifice called yajna is occasionally celebrated among the Smārta Bramins: but this is so rare that my informant never heard of but two instances. The few *Bramins who live by the Vedas* commit twenty or thirty chapters to memory, which are recited at certain ceremonies in weddings, funerals, and yajnas. They never pretend to know the meaning. Ordinary Bramins though taught a few pages of the Vedas at school are not expected to retain this knowledge. From the best information it would seem that not ten Bramins might be found throughout the peninsula who are really skilled in the Vedas. Those recluses who study divinity read various commentaries called *Bhāshyam*. The Smartas read the Sancara Bhāshyam. The Vaishnavas read the Rāmānuja Bhāshyam: and the Madhavas read the Madhva Bhāshyam: each man reading the commentator approved by his sect. Such readers are very few indeed. No man concerned with secular affairs troubles himself with either the Vedas or the comments. So great is the veneration shewn to Sancar Achari that the other commentators even when they oppose his explanations do not venture to name him. Thus we see that the Bramins themselves know just as little about the Vedas as the Musulmans do about the koran.

Among the Jangams and Aradhyas certain *portions* of the Vedas *with the explanation* are much dwelt on. But these are selected for sectarian purposes: to demonstrate that Bramins are in error, and, on their own tenets ought to embrace the creed of Basava. By insisting on allegorical interpretations they pervert the meaning, and cannot very seriously believe what they allege. In fact this device resembles

that of the commentator Hardouin, who attempted to interpret all the Odes of Horace so as to give them a Christian import.

The Aradhyas assert that they are followers of the Veda and the Jangams are (Veda-bahya) excluded from that code. The Jangam replies that all have an equal right to read the Vedas: but that Aradhyas have like other Bramins perverted the meaning of the text.

In fact the Aradhyas merely take refuge in the Vedas from the dilemma in which they are placed by their tenets. Their pretensions to superiority are confuted by the very books that teach their creed: by the Lila as well as by the Puran and the Charitra.

On loss of Caste.

Caste is lost in two ways: by sin and by accident. A full Jangam who breaks his vow by tasting wine or betel-nut is excluded from society: but on expressing due repentance his friends can agree to eat with him, and this completes his restoration: which however, is not granted unless there is the strongest reason to believe he will hereafter be cautious. Instances of such loss of caste are extremely rare.

Even if caste be lost the image is not taken away: for it is always looked upon as a part of the body, and they can no more remove the image than they can cut off the man's hand.

No case is known of the image having been voluntarily laid aside. Accordingly the Jangams declare that no one of their brotherhood has ever embraced the Christian, or the Mahomedan faith.

If caste is accidently lost, prayer and solitude, they say, will restore it.

But they look with horror on the chance of any one accidentally losing the image hung on the neck or arm. They affirm that this has sometimes happened: and of course the loser is instantly devoid of caste.

Now when a person accidentally loses caste among Bramins or other Hindus, the rest immediately turn upon him as fish or savage beasts do on a wounded member of their communities. Their cruel treatment of the sufferer is remarkably opposed to the gentle temper of the Jangam rule. For the Jangam custom obliges them to commiserate the sufferer, to fast and pray with him, until the lost image re-appears in his hand "descending through the air like a bee." An Englishman refuses his belief to the stated recurrence of such a miracle, but both Aradhyas and Jangams unite in assuring us in the strongest terms of this miracle having repeatedly occurred; and they go so far as to declare, that their faith rests on this marvel: and were it ever known to fail, their faith would perish.

On being asked how they would treat the corpse of one who died in such a deserted state they answer that it is a case that never happened, and they cannot say what must be done. As for his soul they suppose but very doubtingly, that it has forfeited immortality and must undergo the Hindu metamorphosis. The same also they say regarding the soul of an infant were it possible that it should be buried or lost in the sea without the performance of this solemn initiation.

Whether the person who has lost the image be an Aradhya, a guru, or a common paria, all castes, including Bramins are bound to unite in the rite of restoration just as all must unite at a funeral.

Regarding their Books.

The books read in this sect were originally written in Canarese, and are of two descriptions. Those universally popular as the Basava Puran and the Prabhu Linga Lila: and those peculiarly intended for Aradhyas, as the Pandit Aradhya Charitra. They generally speak of these three books as " the Puran, the Lila, and the Charitra."

The Arādhyās are very fond of Sanscrit reading: the Vedas, the Gīta (or Bhagavad Gīta), the Nilacantha Bhashyam, the various Agamas and the writings of the celebrated theologian Sancar Achāri, regarding whom the reader is referred to Professor Wilson's Essay on Religious Sects, Asiatic Researches, vol. 17, under the head "Dandis." These are eagerly studied but are not locked up from the people at large. For we shall find excellent Sanscrit scholars among the Jangam gurus, and many who are competent even to convey instruction in the Vedas.

They pretend to found their creed on the venerated Sanscrit treatises now named. But after long enquiry I find that their reliance on these is fictitious. It is easy enough for them to adduce certain texts from these books and the Vedas, on behalf of their creed,* and in particular

* We sometimes find a similar mode of argument in Christian writers. For instance in the VEDANTA RASAYANAM, a well known Telugu poem (in padya metre, in four books), written by Ananda, son of Mangala giri Timmaya, which is a little more than a century old. The beauty and poetical vigour of style exhibited in this work render it very attractive, but in the first book the learned author labours (as does the author of the Charitra) to confute Bramins and other idolaters on their own ground, adducing arguments from the Vedas and Puranas in support of his doctrine. Having omitted to mention this poem in a former essay I will take the present opportunity to describe it. The second book brings the history only as far as the birth of our Lord: having commenced with the Fall. The third gives a brief selection from the Gospels describing the baptism, the descent of the Holy Spirit (whom the poet, using Latin words, denominates *Sancta Spirita*), the temptation, some miracles, particularly the raising of Lazarus; the Last supper: the departure to the Mount of Olives (which the author calls Nandana

in justification of their assuming the name *Jangama Lingam* or locomotive image of the deity. Orthodox Bramins laugh at their pretended proofs; especially at their claiming a right to give a secondary or spiritual sense to particular commands. For instance the *Yajna* or burnt offering ordained in the vedas is by them explained as alluding to "our passions which must be sacrificed."

Another step which gives Bramins no small offence is the plea set up by the Vira saivas to superior orthodoxy. For these hereticks assert that they merely revert to the primæval faith which the Bramins have perverted, and they very benevolently try to recal the Bramins to the right way from which they have erred. In the Pandit Aradhya Charitra, the author has laboured to convince Bramins from their own puranas that they are in error and that they ought to embrace the Vīra-saiva creed. Such ratiocination is absurd enough when we consider that Basava set out by entirely setting aside braminical authorities.

The Purana and the Lila were originally written in Canarese, and have been translated into Telugu and Tamil. It has also, I hear, been written in Mahratta, in prose as a catha or story. The purana is an amusing composition, and particularly pleasing to one who has read *usque ad nauseam* in the braminical books. The Lila is in quite a different vein and vastly superior. It is an allegorical poem of considerable beauty, and is particularly attractive from the pleasing manner in which it describes the female sex: neither as goddesses (as they are described in the braminical poems) nor as brutes, which is too often the style of the braminical puranas. It is not only amusing but written with such delicacy that any Hindu female might read it with gratification. The

Vanam, as he names Peter *Rayapa*, from Rayi a stone. He calls James Yagappa, and John Arulappa. For martyrdom he uses *martura*). The betrayal of our Lord to the Jews concludes this book.

The fourth book describes the crucifixion and subsequent events. The author now takes occasion to teach the doctrine of purgatory, for which he uses the Hindu phrase *pitru-locam.* This, and a few other passages, particularly the Salutations to the Virgin at the opening of the poem, shew that the poet was of the Romish faith. Then are described the Saviour's Resurrection and appearance to the Maries. The journey to Emmaus. Then follow brief accounts of the ascension, and the descent of the Holy Spirit. Then the beatification of the Vĭrgĭn—Peter being left on earth as head of the Church. On the wrath of God and the intercession of the Redeemer. The Last Judgment—Conclusion, containing a summary of the points in the creed, with poetical version of the "ten" commandments. The writer has no where inculcated either the worship of Saints or the other peculiarities of the Church of Rome: at the same time he has courted the attention of Bramins by dwelling as little as possible on the distinguishing doctrines of Christianity.

This poem is written in a beautiful style, and though somewhat too learned for beginners will afford most valuable aid to the advanced student of Telugu poetry, and will spare him the tedium of learning the language through the medium of braminical books. He should *first* read the *third* canto.

tendency of these two books is thus discriminated. The puranam is the Bhacti cānda: or attributes every gift to the force of faith. The Lila is the jnāna cānda, or assigns wisdom to be the means of attaining future happiness.

The Chenna Basava Puran, the Mari Basava Puran, and many more Jangama legends found under various names in Telugu and Canarese (nearly all of which are to be found in the Mackenzie Library) do not merit much notice. They are free from the pride, cruelty and abominations that disgust the English reader in the braminical puranas, but are merely wild vagaries of which more than enough may be seen in the Basava Puran. With slight variations they all run in one strain: that a certain saint out of love to Siva vows to earn money in some particular mode, and he then bestows it on Jangams, and becomes their servant. Accordingly Siva appears to him, and carries him to Cailāsa. On other occasions a "worthy" cuts off his wife's hands or nose because she presumed to touch or smell flowers which he was about to offer to the lingam in adoration: Siva as usual appears, heals her, and carries the pious pair to Cailas. There are miracles in abundance, and some of them very entertaining.

There are other volumes inculcating the yoga system (tatwa bodha) which to our ideas is strange bewildering nonsense. Herein there is but one system, common to all, whether Bramins or their opponents. For this unmeaning mysticism pervades every sect of the Hindus, and is analogous to the Sūfi reveries known among Musulmans,* and to the mysticism promulgated in France and Germany by the followers of Bourignon and Swedenborg. To lose one's senses (*cum ratione insanire*, as Terence says) seems to be its highest aim. Hindus who pretend to learning are fond of dealing in these idle topics, for the purpose of astonishing their hearers, but we shall find that their stock of phrases is soon acquired, and their fund of ideas is yet more slender.

The great theme perpetually reiterated by the Jangams as well as by all the other followers of the reformer SANCAR ACHARI is the resolving our body and mind into spirit. That the *atma* (soul) *is to* BE

* Vide Malcolm's Persia, vol. 2, chap. xxii. and Sir William Jones's Essay on Mystical poetry. See also Extracts by Sir William Jones, from *Baxter* in the Madras Journal, for October 1836, p. 448. In Telugu the favourite work on the Yoga Sastram is the Vāsu Deva Mananam. It does not appear that Basava encouraged such reveries.

This mystic science is indeed an unfathomable profundity of nonsense, such as we may find in the Rabbinical Targum. (Vide Schœttgen and Adam Clarke on 1 Cor. xv. 44). In the Siddheswara Satacam (lately printed in Telugu), and other volumes of devotion, the soul as a female addresses the deity as her lover and husband: as is often the mode of address used among the Persian Sufis (vide Madras Journal, vol. 5, p. 129).

the linga and thus to become one with the deity. This favourite theory is in its ulterior consequences destructive of moral responsibility, for if men become the deity, he of course is sinless, and they are accordingly absolved from sin.

It must be acknowledged that we no where find Basava inculcating this doctrine. It certainly forms the concluding lecture of the Lila: but that is a work not pretending to authority, but recording the opinions received in the national philosophy. This shews what pitiable ignorance Hinduism is in its highest flights. For they all acknowledge the *yoga sāstram* to be the great means of obtaining oneness with God.

It is clear that the Jangams are inconsistent enough in their belief: for while they condemn the Bramins as misrepresenting the truth, they are fond of perusing the various saiva legends wherein of course Siva and Pārvati are the deities, and there is no mention of Basava or his disciples the Jangams.

The most popular of these poems are the Calahasti mahatmyam, or legend concerning the pagoda at Calahasti: the Bhallana Charitra, wherein a king gains a blessing by making a present of his wife to Siva who visits him in the guise of a Jangam! and who thereupon as usual, carries both of them to Cailāsa! the Vira Bhadra Vijayam, the Bhanumad Vijayam, the Madhura Puran also called Halasya Mahātmyam or Socca Natha Lila (a high flying Aradhya work), the Bhanumad Vijayam, and a few more saivite legends.

They sometimes claim the poet Vemana as preaching their creed, but though he evidently held the Bramins in detestation, and shews a partiality to the tenets of Basava, he does not embrace the Vira Saiva tenets. The insulting manner in which he speaks of the female sex furnishes another proof that he could not be a Vīra Saiva. He also speaks of future transmigrations: but the Jangams believe transmigration to have terminated.

But these remarks on their literature cannot be concluded without a few observations on

The Tantras.

Bramins frequently allege that the Jangams are a depraved sect, who are guided by the Tantras or heretical books. But we should not incautiously believe this. The Jangams are in all respects opposed to licentiousness, which is the main spring of the Tantras. The Jangams came from the west. The Tantricas from the north. The Jangams adore the linga and abhor Maia the goddess of Delusion (Venus or Cali, as Devi), who is expressly the goddess (Yoni, or Bhaga Mālini) of

the Tantricas. The Tantricas take no notice of the lingam: they adore Betala (the devil), and other malevolent powers. The Jangams honour Siva as Daxina Murti or the beneficient and loving deity. The Tantricas say they aim at a perfect release from fleshly lusts. The Jangams do the same. But the former, being hypocrites pretend to yield to their passions as the path to freedom. Whereas the Vira Saivas call on their votaries to deny themselves in all respects. They attend especially to the rules concerning funerals, marriage, and placing infants in the creed. On all these points the Tantras are silent. The Tantras inculcate the use of flesh, wine, magic and debauchery, the Jangam creed abhors these. The Jangams are an avowed sect; the Tantricas assume the guise of Smartas. The Jangams train up their children in their creed; the Tantricas (like the Arreoys in older times in Tahiti) merely admit proselytes. The Jangams are sober, devout and humble. The Tantricas are debauched, atheistical and proud. The Jangams are rigid puritans: the Tantricas are licentious atheists. Herein their depravity resembles that of the worshippers of Isis in Rome, the "*Socialists*" of modern days in England, the St. Simonians in France, the *Illuminati*, and other *philosophers* of Germany, the followers of Cagliostro in Italy, and the Nessereahs at Kerrund in Persia.*

With a few touches of his felicitous pencil, Shakspeare has given a view of their system, or *philosophy* which is the Sacti Puja or Worship of Power.

> " Thus every thing includes itself in POWER:
> *Power* into will:—will into Appetite:
> And Appetite, an universal wolf,
> So doubly seconded with Will and Power
> Must make perforce an universal prey,
> And, last, eat up himself."

TROILUS, I. 3.

Again, (Anthony and Cleopatra II. 1.)

> " Let witchcraft join with beauty, lust with both:
> " Tie up the libertine in a field of sweets
> " Keep his brain fuming," &c

Indeed the sottish aspirations of Gonzalo (Tempest, act II, scene 1) give a summary of the bacchanalian rites taught in the Tantras. And if the reader has any curiosity regarding their system of magic, he will find it in Dr. Herklots's English translation of the Canoon-e-Islam or customs of the Moosulmans of India.

* Regarding the Nessereahs, see Buckingham's Travels: cited in New Monthly Magazine, 1829 p. 259.

Knowing the deserved odium that attaches to the Tantras, Bramins assert that these constitute the Jangam system. But were this the case how does it happen that the Tantra volumes are found only in the possession of Bramins? The fact is that both parties read the Tantras from motives of curiosity just as a protestant might read the Koran without in any point adopting the Mahomedan faith. The Jangams honestly avow, and vindicate all they do, they have no motive for concealment. The Bramin acts on an opposite principle and assures us that the Jangams are a depraved and senseless set of hereticks, who obey the levelling principles of the Tantras, and pay honour to the vilest castes. But two widely different principles govern them. The licentious Tantricas reject caste because it is an ordained rule of society: he degrades all men to the brutish level. The Jangam is no leveller: he indeed desires to abolish caste: but by raising from the lowest grade those whose faith shews them to be good men. Indeed the imputations made against them are very similar to the infamous stories circulated among ourselves, in older days against the Puritans, the Quakers and Moravians,* and investigation has shewn them to be equally false.

It is to be observed that no instance is known of a Vira Saiva acting on the principles laid down in the Tantras. To excuse their aptness to read these abominations they allege that the Tantras belong to their creed because they describe Siva as the great deity, and countenance, as Basava does, the abolition of caste. These are but slender apologies, for such an imitation of the evil example set them by Bramins.†

In concluding these remarks on their literature, we may add that the Jangams have no objection to read and study any part of the Bhagavat or other braminical books: only they refuse to accept them as divine and authoritative.

* See Southeys Life of Wesley, vol, 1. p. 359.

† The Minda Jangamas or Bachelors are spoken of in various passages of the Lingadhari poems. They are confessed to be libertines but are devout. They have interviews with (Vesias) courtezans who are likewise devout!!

The following is the received opinion. The Jangams are entirely forbidden to have intercourse with prostitutes: but among the earliest proselytes were some unmarried men, who were permitted by Basava to have intercourse with courtezans who, belonged to the sect. These men were called Minda Jangams or libertines, and in the present age there are none; for all are bound either to marriage or to virtuous celibacy. That Basava permitted this is only a theory, and rests on no proof.

In the western districts there are prostitutes who are called *Basvinis*, and are said to be thus devoted by their parents, on their lives being in danger through illness in infancy. Some of these are, as I am informed, daughters of Jangams: but all are not so: being children of Hindus of other castes. I have heard of some Jangams in similar cases attempting to remove a child's illness by giving it a braminical name, with a view to appease some god or goddess, whose displeasure is imagined to have caused disease.

These statements certainly shew the purity of the creed not to be so complete as its devotees assert.

On their belief regarding the Deity.

In all the various creeds that exist among the Hindus, they profess to adore one only God, and represent him as appearing under various names. Thus in the Vira Saiva creed, they profess a belief in Sada-Siva alone as the supreme being, who is invisible but pervades all nature. They frequently speak of him as Daxina Murti or the express form of goodness, who descended on earth under the name Basava and likewise as Allama. The following Sanscrit hymn or prayer to Daxina Murti was written by the celebrated divine Agastya: it forms part of the *Agastya-ashtacam*, and is prefixed as a motto to the Prabhu Linga Lila:—

1.

Bramh ānandam, parama sukhadam kēvala jnāna mūrtim,
Dwandw ātītam, gagana sadrisam Tatwam asi *yādi laxyam!*
Ecam, nityam, vimalam, achalam, sarvatas sāxi bhūtam,
Bhāv ātītam, triguná rahitam, sad Gurum *tam namami!*

2.

Vata vitapi samīpē, bhūmi bhāgē nishan'n am
Sacala muni janānām, jnāna dātaram ārāt,
Tribhuvana Gurum, I's'am, Daxinamurti *Dēvam,*
Janana maran'a duhkha xēda daxam namāmi.

1. *I salute the great teacher, the bestower of divine happiness and supreme bliss; the image of perfect wisdom; who is removed from all griefs; who is represented by the sky; who is denoted by the* "Truth" *and other names. The one, Eternal, stainless, stable, and Omniscient, the incomprehensible: who knoweth neither Passion, Partiality nor Folly.*

2. *He who sits on earth at the foot of the fig-tree:* who bestows wisdom on all the devout hermits who surround him: Lord and teacher of the universe, the God who is embodied Goodness, him do I salute as the releaser from the bonds of life and death.*

When the deity is spoken of as invisible he is named Siva, Sadā Siva, Paramesa, or The Supreme Being. When described in a visible form the name is Daxina Murti or the image of Grace. When described as on earth, Allama is the usual name: though this is declared to be only another name for Basava.

* The *vatá vrixam*, the banyan, or fig-tree is the Hindu emblem of immortality: they believe that in the end of time all nature will perish except one mystic fig-tree at the foot of which, the deity will be enthroned.

Thus we see that they look upon their leader as a divinity: imitating the Bramins who have exalted their heroes, Krishna, Rama and Hanuman, into gods on earth.

The vague manner in which these names are used produces some inconsistency. Thus Basava *is* actually Siva: vastly superior to the mere Siva or Jupiter who is the spouse of Parvati: and yet is sent on earth by him. He is born as Basava, then appears as Allama, is adored as Daxina Murti: and then we have interviews between these personages, whereat Basava offers adoration to Allama.

It is observable that Basava's wife Gangamba, is never supposed to be a goddess: nor does she receive any homage.

Sancar Achari, the great theologian of the Smartas having declared that ONENESS with the Deity is the great object, the Jangam replies that this union is attainable in this life, and that every true Jangam has attained it. Moreover he asserts that his mortal body is a mere member of the image he wears. For, says he, "what am I in the hands of the God who dwells on my breast? *I am earth, he is spirit! I am but a part of him.* We find similar language among some philosophers of Greece and Rome. Thus Livy (lib. xxi. 5,) says *Vidit énim quod videndum fuit* APPENDICEM *animi esse corpus, nihilque esse in eo magnum.* In fact the Bramin looks upon the body as all in all; the Jangam does not. Yet the regard in which they hold the *yoga sastram,* which wholly depends upon the *bodily* frame, and pretends to spiritualize it, is a manifest inconsistency, and forms an additional proof that all the Hindu systems of devotion in their highest flights betray the weakness and blindness of unassisted human nature.

Though this creed utterly condemns all worship paid to Siva and his spouse Parvati (Jupiter and Juno), still these personages and their attendants (Nandi, Bhringi and others) are familiarly introduced in the Jangam poems. This odd inconsistency is analogous to that we meet with in Addison, Prior, and the French school of English poets: who introduce Jupiter, Venus, Cupid and Mars, as if they really believed the existence of those demi-gods. When questioned on such a half belief in the Hindoo theogony, the reply made by a Jangam is not satisfactory. He does not look upon such poetical machinery as inconsistent with his creed. For, says he, all of these are very possibly gods or powers of various degrees of might, and we are not bound to believe a word of the stories regarding them. We adore "Sadā Siva" (the ever blessed) alone, who is known under the name Basv Esa (the lord Basava) or Allama Prabhu (Lord Allama) who came on earth to found the Vira Saiva faith, or rather to restore it to primitive purity.

Considering that this creed arose in the west of India, in a country bordering on that inhabited by the Syrian Christians, it has sometimes occurred to me that very possibly some of the tales regarding Basava may have been borrowed from legends current among the Syrian churches. Both chronology and geography seem to strengthen this suspicion: and it is worthy of notice that the name Allama, which resembles the Syriac and Arabic name of God is attributed by them to their deity. The word Allama seems to be foreign, and in their eagerness to account for it, the various poets, whether Sanscrit, Telugu or Canarese have adduced roots which will not bear enquiry. Indeed the learned men who assisted me in the present investigation have acknowledged that the etymologies adduced are strained and improbable. They however, would by no means admit my suggestion that this name originated in Allah: and particularly observed that no Jangam had ever been known to embrace Christianity, or the Mahomedan faith.

Yet when we consider how determinately Basava did every thing in his power to oppose the braminical opinions, I confess that his followers thus borrowing a well known name of the deity from a neighbouring country seems not improbable. He ordered *all* children to be introduced into the religion when young. He abolished burning the dead and substituted burial: he set aside the priestly descent, he permitted widows to marry again. In these and many other points equally opposed both to Bramins and to Jainas it appears to me that he attempted to follow the customs of Christians. In particular it is observable that the Jangams reject the observance of new moons and full moons but consider every Tuesday a sacred or blessed day.

If it prove true, as just now mentioned, that there have been no converts from this creed to Christianity, we may fairly attribute it to the neglected state in which the English have left the Jangams. That neglect seems to be the result of the disgusting slanders with which the Jangam character has been blackened by Bramins: who usually are an Englishman's informants on all subjects concerning Hinduism.*

If the Jangams really were the depraved and vile race the Bramins describe them to be, it surely might be expected that they would have become notorious in our courts of justice. But there we do not hear

* As one proof that the Jangams are not more unwilling than other Hindus, to listen to Christian doctrines I may mention a poem written in the Telugu dwipada metre, intended to convey a version of the Gospels. This is the composition of a learned Jangam poet, and having seen but a small part of the work, I can only state that it seems to be well executed in a plain unpretending style. The title is KRISTA CHARITRA, and in writing it the author appears to have been guided in his phrases by the Tamil version of the Gospels written by FABRICIUS.

of them. And surely it is much to their honour that their conduct is not known to be such as makes it a subject for police investigations. Another reason for their never appearing in our courts even as complainants or witnesses is, that we have forced them (until the present day, this necessity being now done away by law) to take the common Hindu oath: which they look upon as a crime. Among themselves the oath commonly used is, to make the requisite assertion while holding the image in the hand. Or else, to lay the hands on the feet of any Jangam. For, say they, every Jangam is a living image of the god we adore.

The Vīra Saivas illustrate their creed by a comparison quite in the Hindu style. They say, the guru is the cow: whose mouth is the Jangam or brother in the faith; and the lingam or image is the udder. The cow benefits its owner by means of the udder: but what fills the udder? the mouth. And what connects the mouth and the udder? the body. Accordingly if a Vīra Saiva wishes the image to benefit him (that is, if he desires to obtain the favour of the deity), he must "feed the mouth"—that this, sustain and comfort his brethren. And then the blessing will be conveyed to him by means of the teacher. Accordingly the Jangams blame the Aradhyas for neglecting this command, and ask how they can expect the image to nourish them if they neglect to sustain brethren and fellows in the faith. For the Aradhya refuses to look upon any but Aradhyas as brethren.

The strangest part of their legends regarding Siva is that wherein he is represented in the most contemptible light as completely the servant of various (bhact) worthies or saints. Such stories abound in the Basava Puran but are excluded from the Lila. In these we are reminded of the Romish legends wherein the Virgin Mary, and some other personages are represented under most degrading circumstances, as obeying or waiting upon the saint whom the legend extols. Thus in the fourth book of the Basava Puran is a story of a certain "worthy" (bhacta) named Nambi, who by force of faith got Siva so completely into his hands that he employed the god as a mere slave. In another story one of the "worthies" scolded Siva who "was so much alarmed that he slunk round the other side of the image, and ran away into the jungle." Other stories represent this paltry demi-god acting either as a thief or as a receiver of stolen goods, to protect his adorers: and they frequently represent him as acting the part of a pander, at the bidding of one of the worthies.

The Vīra Saivas evidently look upon such stories as excellent jokes, and certainly many of the tales are incomparably more amusing as well

as more moral than the dulness of braminical purānās. But when they are asked how they venture to represent their god in this ludicrous manner, they reply at once that this is not their god: their god is ALLAMA BASAVA; the one Sada-Siva (ever blest), whereas the hero of these stories is merely the braminical Siva whom they think as fair a subject for merriment as Jupin or Jupiter is in the French theatre.

In apology for these stories Jangams allege that they all establish the necessity of faith (bhacti) as the great means of attaining happiness and miraculous power. "As the Bramins, say they, call themselves (bhu-sura) gods upon earth we will shew that our *worthies* (bhact) are quite a match for them." Accordingly there are many legends to prove that (Janga-prasadam) food or the *leavings of food* blessed by a *worthy* can perform all sorts of miracles. For instance, a Bramin who by a curse had become a swine ate what a Jangam had spit out and hereby resumed the human form. Elsewhere a Jangam's shoe works miracles.

In all hagiology we find that the fables invented in successive centuries become gradually more marvellous. Accordingly though the legends of the Basava Puran are wild enough they are out heroded by those of later date: for instance, the Chenna Basava Puran, from which (book 2 verse 86) I cite the anecdotes now mentioned.

It must however, be acknowledged that in a redundancy of nonsense as well as in dirt the Bharata beats all the Saivite stories. There we find the very sublime of puerility: braminical legends compared to which *Jack and the Bean Stalk* are nothing at all. And all this is enshrined in a flow of beautiful Sanscrit verse which for richness of expression and harmony rivals Homer himself. The Bramins have had possession of the most perfect and beautiful of languages, and have often perverted its melody and vigour to the vilest of purposes.

Objectionable as many of the Saivite* legends are, they are purity itself when compared to the braminical writings. The great prophet of the Bramins is VYASA, and this venerated Saint's description of his own miraculous birth is a master-piece both of filth and folly.

The Jangams are indeed set free from believing such legends but their own hagiography, though not dirty like that of the Bramins, is full of absurdities: in apology for which they acknowledge that many of these tales bear marks of fiction.

Further, they allege that in all these legends the adorers are not

* I ought to have already mentioned the *Siva Puran*—of which the reader may find an abstract under that title, in *Rees's Cyclopædia* (furnished by Sir CHAS. WILKINS) and he will perceive that this book has nothing to do with the Vira Saiva Creed. This puran is *entirely forgotten.* I possess one copy in Sanscrit and never could discover another.

Vīra Saivas. They are Jainas or else ignorant followers of the braminical follies: but that by the force of (bhacti) faith and charity they ultimately were " admitted into heaven" (literally, borne to Cailasa) which, as they assert denotes admission to the true creed.

In many of the legends we may trace a similarity between the character of Basava and that of Mohammed as described in the various legends current among Musulmans: shewing much simplicity on the part of Basava the master, and a voracious credulity on the part of the disciples. Those Mahomedan stories however, contain many incidents of the most disgusting kind: from which the Jangam books are entirely free.

There is so remarkable an analogy between the Pythagorean *Monad* and the deity of the Jangams that I cannot well avoid adducing the following brief deduction from the philosopher's statements, as represented in Cudworth's Intellectual System, 2d edn. 4to. chap. iv. p. 370, 376.

Pythagoras calls the four principles by numerical names; the Monad, Duad, Triad and Tetrad. The Vīra Saiva calls them by specific names: viz. The Lingam, Bhacta, Guru, and Sivam, *i. e.* the deity, the disciple, the teacher, and supreme spirit: which pervades and unites all three.

The subordinate beings (gods, heroes and demons) of Pythagoras answer to the Vīra Saiva saints: all of whom are supposed to be embodied forms of the prime existence or Lingam; which answers to the Monad: who is also Zeus. The Duad is the passive principle; or *disciple;* he whose mind is the field for impressions. The link between these two is the third principle; the Guru or teacher. In his creative office the deity is mingled with nature by Pythagoras and IS all nature in the creed of the Vīra Saiva.

Love was the first Orphic principle, and so it is throughout the Vīra Saiva creed. Yet it is a created being; for it is a form or appearance of the deity. Thus the Lingam and the Sivam, being the first and fourth principles are one and the same. The Monas and the Tetractys are one.

Again—The Satwa guna being the characteristic of God; the Tamo gunam is that of man; and the Rajo gunam being the connecting link—the supreme state is *Nirgun'a,* or indescribable: which is the fourth or superior deity designated as the incomprehensible and ineffable Tetractys.

Then Monad signifies the prime or independent Lingam, and in its applied form it is *element.* Accordingly *Tejo Lingam* is fire, *ab-Lin-*

gam is water, *príthvi Lingam* is earth; in like manner *pul-Lingam* in grammar is masculine, or the male *element*, and *stri Lingam* is the female *element* or the *feminine gender*.

Some very obscene stories regarding the origin of the Lingam have been printed by various European authors. Those stories *(with which I never met in Hindu authors)* are perhaps braminical; they have nothing to do with the Jangams; in their books there is no mention of the subject; and I have not met with any Jangam acquainted with those fables.

Regarding Allama.

Allama is represented as becoming visible on the wish of Siva—he then descends on earth. There is no tale of his birth, death or final disappearance: and some Vira Saivas evidently believe he is still roaming the earth. In the Lila he appears on one occasion as an Adonis, to enamour Maia. Then disappears and visits a (bhact) worthy in a distant town: again vanishes and visits another: assumes no pomp, has no followers, and manifests no power. Basava is a ruler, a warrior, a king's minister, the head of a family, and fervent in his vows to nourish Jangams (puritans) and to vanquish Jainas. Allama's disposition on the contrary is marked with peace, benignity, humility and gentleness. Precisely in this strain do Mahomedan authors speak of our Lord, and unless he had heard such traditions it appears to me impossible to account for a Hindu poet's framing a character like that of the ALLAMA described in the *Lila,* so remarkably opposed to human nature as seen among Hindus.

Allama is represented as entirely chaste, though perpetually sought in love by Maia and other heroines. He remains unmarried. He has disciples but no relations.

On certain Shrines.

Though the Lingadhāris deny the sanctity of any particular place, the Aradhyas have yielded to the Hindu propensity to worship in certain places as peculiarly holy. Each of these is a temple to Siva and accordingly the priest is a Saiva Bramin. One of these at Canchi (Conjeveram), one at Jambukeswarm (near Trichinopoly), one at Arunagiri (Tirunamala), one at Calahasti (near Nellore), and one at Chidambaram. These are respectively called the lingams (bhūtams) or elements of earth, water, fire, air and ether. These are holy places frequented by Saivas; and the Aradhyas assert that to visit them is meritorious though the priests are Siva Bramins.

Regarding these temples the Jangams profess to have no opinion. They neither approve nor condemn him who worships there: for the sanctity of these shrines rests on the braminical purans.

They themselves profess to hold in honour five other lingams. 1. That of Chenna Mallikeswar at Srī Sailam. 2. That of Cudali Sangameswara, so named from the village where Basava died, or, as they say, vanished. 3. That of Gocarneswar, at a village of that name. 4. That of Bhīmeswar at Draxaram, in the Rajahmundry district. 5. One which is described in Professor Wilson's Essay and said to be at Benares but of this the accounts differ.

In these five places the priests are Jangams: not Aradhyas. At Srī Sailam Jangams pay nothing, though a fee of five rupees is exacted from every worshipper in the other castes (including Aradhyas). It would seem that this was originally a braminical shrine, for there is an image of Pārvati. This goddess, however, sits opposite to the image of Siva: and a Smārta Bramin is her priest while a Jangam is priest to the god. So heartily do these sects detest one another that the (tīrtham) holy water offered to one image is not touched by those who come to adore the other.

The Jangams acknowledge that they have no business to celebrate such worship, and in excuse say that these are customs derived from Bramins.

The odd conjunction of rival gods under the same roof, or at least within the same temple wall, is exemplified at the well known pagoda at Tiruvattoor, close to the town of Madras: where Siva is adored under the name *Adi-Pur-iswara,* "thus called (to use Homeric phrase) among gods: but known among men as"—Teagarāya Swāmi. One corner of his pagoda has been taken possession of by a Sacti or *plebeian goddess,* called Tripura Sundari (Venus): but vulgarly *Vattapu-nanchāru.* The god has a Siva Bramin as his priest, and has his spouse Parvati with him. But the Sacti or paria goddess (who is a much dreaded fiend) has for priest an *ōchē*-man: this is the Tamil name of a low caste, called *panasa* in Telugu, who are tumblers and wrestlers: and are employed to blow the trumpets at funerals. So degraded are they that no Sūdra will eat with them. The sacrifices he offers are buffaloes, goats and the like. This lady's feast lasts ten days, during which the luckless Siva and his spouse receive no worship. The doors are shut upon him and he is left alone till the feast terminates.

All Hindus, even those of the most respectable classes in the town of Madras flock to this pagoda, to gain the favour of these wretched

idols: and there are miracles (well attested) in abundance to prove the benevolence and power of these divinities. The latest I have heard of is regarding a "worthy" who cut out his tongue as an offering to Siva, and the god restored it to him. This god's name, Teagaraya has become a proper name, given to many Hindu boys.

We are not to suppose that the Vīra Saivas approve of such brutal follies. They equally despise both the Siva and the Sacti, and much blame those of the Jangams who timidly follow the fashion in offering homage to this miserable Siva.

On Funerals, &c.

Some particulars regarding funerals have already been given. A few remain to be added.

The Aradhyas, as far as possible, adhere to the braminical customs: though they are obliged to use burial and not burning.

Over the grave the Jangams place an image of the lingam, to which they offer worship for ten days. They then remove it or leave it established, at pleasure.

On the eleventh day they give a dinner to the assembled friends, on whom they bestow new clothes, according to their means.

The Aradhyas believe that the father, grandfather and great grandfather of the deceased, who are in Cailasa *(heaven)*, enter purgatory (the *pitru locam*) at the time of his death: where they wear the appearance of his dead body. To these progenitors are performed the rites, called *ec-oddishtam, nava srāddham, shodasam saptacam,* and many more. Some few use the rite of releasing a bull on this occasion, as other Bramins do.

Under the name of these progenitors the Aradhya guests are fed.

On the conclusion of these rites they say that the deceased is now gone to Cailasa.

But Jangams act in another manner, rejecting all notice of the three progenitors: for whose names they substitute the names Siva, Mahesa, and Sada Siva; which in fact are three names for God.

As a reason for this they allege that they consider the Guru to be the only parent of each disciple. For he bestows the image on them, and they are "*born in his hand.*" For, say they, being born into the faith is a more important event than that of merely being born on earth: and hence they pay reverence rather to the Guru than to the parent.

The image worn by the deceased is placed in his or her hand, and laid on the breast. They attribute to it the same potency that the

Greek Church attributes to the letter written by the bishop, and placed in the coffin.

They are free from the Hindu rules regarding the anniversary of a death. Some few, however, imitate Bramins in solemnizing that day.

Not having myself seen any of their tombs, I avail myself of the following note given me by Lieutenant NEWBOLD: "The tombs of Lingavants of rank are generally massive quadrangular structures, raised on terraces built of stone, and simply but handsomely carved. The interior consists generally of a square chamber beneath which is a vault containing the real tomb: which is also usually square. Over the head of the corpse is sometimes placed a phallus; often ornamented daily with sweet flowers. These tombs are sometimes constructed by Jangams for themselves; and an old priest living in a *mutth* among the rocks and ruins of Bijanugger, led me down into a subterraneous vault, dimly illumed by a solitary lamp: and this he showed me as the destined receptacle of his more mortal part. The bottom of it was strewed with ashes."

Ideas regarding a future state.

A modern writer describing the opinion of the Jews at the present day, on the subject of a future state, says "they believe that they suffer for themselves: Moses is their prophet but they look to their own good conduct as furnishing grounds for hoping a reward. If good, say they, "my God will reward me, and if bad he will punish me."

Such is the belief among the Jangams: who entirely differ from other Hindus with regard to a future state. They make a singular distinction regarding themselves. Other men, say they, are liable to transmigration, but we are not. All who are introduced into the faith are exempt from transmigration. They depart either to heaven or hell, and that state is eternal.

The Hindus in general are credulous enough as to ghosts, sprites, and local demons. But they do not believe in the existence of the Devil or Satan as a separate being. In this the Vira Saivas resemble their countrymen. What we call the work or instigation of the devil, the Hindus call, the fruits of a former birth. In the Christian poem "Vedanta Rasayan" the Devil is called *pisachi*; the same phrase (fiend) is used in our English poet CHAUCER.

The description of the *creation* of the world, forming a prominent part of the braminical system they have in opposition devised another mode, described in the Lila. Regarding the end of the world, they have no definite ideas.

On the Prayers used.

The prayers of the Jangams are addressed to the image they wear: which they salute as Basavesa.

The mantrās or prayers are borrowed from the Vedas: but they do not practise the (anushtha'nam) "mode" practised by Bramins.

The daily prayers usually are in the mother tongue. Occasionally they use a Sanscrit canticle: as the following, borrowed from Sancar Achari:—

Anāyāsēna maranam; vinā dainyēna jīvanam;
Dēhāntē mama sāyujyam curushwā Paramēswara!

"O supreme Lord, grant me an easy death, a life free from poverty, and eternal happiness* when I leave the body!"

Or they offer hymns of praise as the following, which is written in the common metre called *Malini.* The metre is broken in the fourth line; and though it might easily be rectified, they leave it as it is, the words being sacred:—

Nayana camala madhyé, jyōti rūpa pracāsam,
Pran'ava maya sabindum, prān'a-linga swarūpam!
Vihata janana pās'am, vighna vich-ch-hēda hētum
Hara hara Guru sāntam OM namas Siva'ya Lingam!

"Blessed image I meditate on Thee who dwellest between my eyes,
"in glorious form! who art the word and the sign,† the supreme being!
"Free me from the ties of the flesh thou who loosest every bond!
"O Teacher thrice blessed!"

Among Bramins the great mantra is the Gāyatri. This is used by the Arādhyas but the Jangams reject it, and use the *Panch-āxari,* or five-syllabled spell:—adding the shad-axari; or spell of six syllables; i. e. the Panch-axari with the addition of the word OM.

A celebrated verse says:

Véda mátácha Gāyatri, mantra mātrā shad axari.

Accordingly in rejecting the Gāyatri they reject the Vedas, the Panch-axari or five syllabled spell, is "*Namasivāya*" or glory be to God. If the syllable om (like Amen) be prefixed "om Nama Sivaya," then it is called shad-axari or six syllabled.

* Literally *Identification.* The Saiva creed describes eternal happiness as consisting in four (padavi) *points:* denominated 1, *sálōkiam,* 2, *sámípiam,* 3, *sárūpiam,* and 4, *sáyujiam.* That is, 1 dwelling in heaven, 2 in the very presence of God, 3 bearing his image, and 4 becoming *one* with him.

† Here, as in a former verse, the Sanscrit scholar will not exact a more rigid translation: as that would require explanatory notes, and render the subject more tedious.

After thus addressing the image (in which rite they use the *rudraxa* or rosary) they make such requests as circumstances call for. Social prayer is rarely used. Man and wife, though praying at the same time, address their prayer to the image each person separately wears.

The *prayaschitta canda* or *system of penance* is the most irksome burden imposed by braminical superstition and priest-craft. The smallest mistake or omission in performing ordained ceremonies, is herein considered as a sin, and atoned for by a vexatious system of fasting and unmeaning prayer. The Jangams are set free from this rigid and hypocritical system, but the Aradhyas have not had the courage to obey Basava, who laid it aside. They are nearly as much burdened with it as are other Bramins.

On Rejection of Braminical Ordinances.

One important rule which Jangams observe forbids the use of the special braminical rules. It runs as follows, in Sanscrit verse :—

Apasavyam, tilān darbhan n agnau carnám cha pārvanám
Vikiran arghya pādyam cha saivas sapta vivarjayēt.

" *Let the Saiva (which they declare to signify the Vīra saiva) desist from the rites called* 1 Apasavyam, 2 tillatarpanam, 3 sacred grass, 4 the burnt sacrifice, 5 the stated observances called parvam, at the new and full moon, 6 the arghya, and 7 the pādya."

This verse is intended to sum up all the braminical rites which the Vira Saivas renounce.

It is observable that the burning of frankincense is used among them, but this they say is no breach of the fourth rule.

The Arādhyās do not deny the authority of this text : but they remonstrate that were they to obey it they should be excluded from the braminical order. Accordingly they admit the rule, but agree to disobey every one of its demands.

The Aradhya is charged by the Jangam with gross inconsistence in using the prayers to the sun, which consecrate the braminical thread; and also the *panch-axari* spell which consecrates the lingam.

The Aradhyas cannot venture to take the last step by performing the rite called *shad-axari*, for that implies becoming a *Sannyāsi* or recluse, shaving off the braminical lock, and assuming the tinted dress. These would at once place them in the *Jangam* class: and few Aradhyas have the resolution thus to renounce the law of caste. Accordingly the Jangams abhor them, and to use their own words " hold it sin even to look upon an Aradhya." Thus we see there is bigotry enough on both sides.

Miscellaneous Particulars.

In speaking of their literature the following distinctions are necessary.

They discriminate three paths or opinions: viz. the Carma-canda, the Jnāna-canda, and the Bhacti-canda.

The Carma-canda, or Law of Works, attributes every good and evil act to ourselves. Accordingly men are to be rewarded or punished according as their lives are virtuous or the contrary.

The Jnana-canda, or Law of Wisdom, opposes this; stating that men are the mere instruments of good or evil in the hands of God.

The Bhacti-canda, or Law of Faith, calls upon men to adhere to virtue or benevolence as being the *fruits* of faith:—but adds that the deity is all in all, and our good deeds have nothing to do with salvation.

The *theory* of this creed may be traced to the Mi'ma'msa philosophy; which is thus defined in Wilson's Sanscrit Lexicon. The first part, the *púrva Mímámsa,* or Mímamsa simply, illustrates the *Karma Kánda* of the Vedas; or the practical part (the ritual) of religion and devotion, including also moral and legal obligations. The second part, or *Uttara Mímámsa,* ascribed to Vyása, is the same as the Vedanta, founded on the Jnána-canda or theological portion of the Vedas, and treating of the spiritual worship of the Supreme Being or soul of the universe.

We must however observe that the Lila is often called "*Shanmatasammatam,*" that is tolerant or universal, because free from the intolerance which we often meet in other treatises.

While compiling these notes it has been pointed out to me that few of the English are able to obtain the Vira Saiva treatises. This is true, and the manuscripts which we may succeed in obtaining, too often prove incomplete or erroneous. I shall therefore be willing to supply copies to any who may require these works: and the cost of transcription will be found moderate.*

Likewise copies of the Vedanta Rasayanam, a poem the beauty of which is greatly disparaged by the poet's earnest endeavours to prove that the Christian religion is very analogous to what he considers pure Braminism. He goes so far as to designate Christians *Dwija* and *Bhusura* which are mere poetical titles for Bramins as "gods on

* The Lila contains 6900 dwipada lines, the Puran and the Charitra are each of them about twice that length.

earth." He seems to think it an easy thing to reconcile two creeds which are as distinct as light and darkness.

The image is usually placed on the infant's neck on the eleventh day after birth. In the books are fables about their bestowing it much sooner.

For putting this sign on an infant they give this reason. They look upon the child as a heathen until this rite is performed: and it is unlawful to have under their roof a heathen who does not worship their god, and whose eye would contaminate their food.

A life of celibacy is held in small repute: but some, both men and women, embrace it. The rite of marriage among them costs very little indeed. In these points they more resemble the customs of Christians than those of Hindus or Musulmans.

They are as fond as are all Hindus of making vows: often empty and iniquitous enough: but if we may judge from the legends in their books, their vows are chiefly made with a view to obtaining future happiness by the means of charity shewn towards brothers in the creed. Though Aradhyas bestow initiation on women only at the time of marriage, these two rites have no connection, and it is of no consequence whether one or the other is first administered.

The Jangams state that in the present age they very rarely make proselytes: and the reason is that in latter days the teachers insist on ten or twelve years of probation, and this wearies out the zeal of the aspirant.

Looking upon themselves alone as being in the true faith, the Jangams consider the *purva-Saivas* (Smartas) to be in an imperfect state. To use the Jangam's own expression, *their* creed is the flower, ours is the fruit.

The Smartas never make the smallest mention of Basava: they honour *Nandikeswara* which the Jangams say is only another name for Basava.

The difference between *Samanyas* and *Visēsha* Jangams has been pointed out. But it is not easy to understand in what respects the confirmed class is superior. They acknowledge that both classes have an equally strong hope of future happiness.

All the sects who look upon Siva as their god *profess* to imitate his garb (that of a *sannyasi* or monk) by smearing ashes over their foreheads and bodies, so as to dress as penitents. A few Aradhyas attempt to wear this garb, which if worn as described in the Mari Basava Puran would be ridiculous enough. But in general the dress of Lingavants differs from that of other Hindus only in the rite of wearing the image.

The sect occasionally style themselves as *Mähēswars, bhactas, Ganas* or use the names of some other attendants on Siva. But these respectful titles are not conceded to them by others, and Bramins generally look upon them as *Pasandas* or hereticks.

The *Linga Baljas*, a class of Hindus who abound in the Cuddapah and Bellary districts are apparently the same tribe, who have been already described as *Cannadilu* or Visesha Jangams.

Notwithstanding their rejection of feasts and fasts, the Aradhyas are as strict as other Hindus in celebrating the Sivaratri feast. And the Jangams though they profess to condemn such superstition usually follow their example in this respect.

The *mantram* which I have described as breathed in the ear, is whispered in like manner in other sects:—of which a proof may be seen in the present Journal, vol. iii. p. 21.

The various *mudras* or attitudes used in prayer by Bramins, are observed by Aradhyas, as strictly as by Saivas. But the Jangam renounces them.

At the present day we rarely meet with Jangams of tolerable education even in their own language. Their religious prejudice have excluded them from most of those schools, wherein either Christians or Bramins are the masters: and I have heard of only one school at Madras, wherein a Jangam (under Christian directions) is the teacher. In many instances the Jangams are too poor to pay even the smallest stipend for education, however earnest they may be in a desire for instruction.

The Vīra Saivas resemble the old puritans in combining the devout and the warlike character. In their zeal against their religious foes the Jainas, they certainly were very intolerant. In modern days the insurrection at Kittoor and that at Mangalore have shewn how turbulent they can sometimes be. The king of Coorg, now a state prisoner, is a Jangam. The Raja of Punganoor near Chittoor is of the same creed.*

These Hindu barons are of the class already described as *Visesha Bhact*, which is free from any peculiarity in dress, and not having taken the higher vow, men of this class may not inconsistently be soldiers. The Mysore raja is often mentioned as being a *Sāmānya Bhact*, but it would appear that though attached to worshippers of Basava he is not himself a Lingadhari.

* The reader is requested to correct a few errata in these pages. In p. 144, line 12, for *found* read *founded*. In p. 158 substitute the *Rucmangada Charitra* for the Bhanumad Vijayam where that name is accidentally repeated in line 24.

Conclusion.

The statements now made may be summed up in a few lines. The Jangams are a sect of Hindus who have lasted about seven hundred years. They adore Siva as the one God, and wear his image hung on their breasts. They call themselves primitive worshippers, and look upon others as idolaters. They say that they reverence the Vedas, the Bhagavad Gīta, and the doctrines of Sancar Achari, the great reformer of the Saiva creed who in point of time preceded their teacher Basava. But rejecting the Bhārata, the Bhāgavat, and the Rāmāyan they deny the authority of Bramins: by whom they therefore are detested as hereticks. They are the disciples of Basava, and as all Hindus are apt to exalt their teachers into gods, they declare Basava to be the god Siva himself. Basava though born a Bramin's son abolished every one of the braminical observances; particularly caste, pilgrimage, and penance. Some Bramins joined his creed, being in all probability his personal friends; he persuaded them to lay aside their name, and call themselves *Arādhyas*, or *Reverend* (*καλοι*, whence Caloyer the modern Greek name for a priest). But he could not induce them to lay aside the braminical thread: the rite of assuming which requires prayer addressed to the sun, as a god. Hence the Jangams assert that these, like other Bramins are idolaters: and accordingly the Arādhyas are rejected by them and treated with scorn.

They are a peaceable race of Hindu puritans: though at times they have been more warlike: and when their tenets became correctly known to the English there will appear no reason for excluding them from that patronage which has hitherto been extended only to Bramins, or those Hindus who reverence Bramins. Various prejudices have hitherto existed against the Jangams: these have now been investigated, and the result unreservedly communicated to the reader; who will find that the Jangam literature, however abhorred by Bramins furnishes an agreeable introduction to the various languages of Southern India.

Postscript.

The able reports printed in the Madras Journal have shewn the literary value of the Mackenzie manuscripts. But it is much to be regretted that a large collection now lying untouched in the India House is not transmitted to Madras, where the books might prove very useful. I allude to about *eighteen hundred* volumes of manuscripts,

chiefly written on palm-leaves, in the Telugu, Canarese or Tamil character. Being in London in the year 1837, I obtained the permission of the then Librarian Sir Charles Wilkins, to examine and catalogue this collection. And I found therein 468 volumes in the Tamil character, 997 in the Canarese and 336 in the Telugu—not to mention about 250 which being in the Devanagari, Nandi-nagari, Bengali, or Orissa writing may be available to learned men at home. Were the manuscripts in the Telugu, Tamil and Canarese character transmitted to Madras, and placed under the care of the Literary Society at the College, they might afford us aid in many enquiries. Whereas in Leadenhall street they are buried in obscurity. I heard of these books only in the course of conversation when they were mentioned as being written in nobody knew what language, and as forming part of the spoils of Seringapatam, or else as collected by the celebrated *Leyden.*

The examination I made was very kindly brought to the notice of the Court, by Professor Wilson, who now succeeded to the Office of Librarian. I was honoured with a letter of thanks, but would venture to suggest an application in the name of the Literary Society requesting that the Honourable Court would direct the transmission of these books to Madras; where, if no one else was inclined to undertake the task, I (if then present at Madras) would cheerfully engage to arrange them so as to be available for literary purposes, separating from the mass those volumes which are of no value, and selecting those which merit attention. I have lately ventured to apply to the learned librarian for the use of some manuscripts, which I at present require, but think that many will join me in expressing a regret that a collection so valuable should lie useless; surely the Honourable Court in transmitting these books to Madras, would retain the proprietary right while they rendered the collection available to the learned at large.

The rough draft of the catalogues, I prepared, is now left on the library table at the rooms of the Literary Society: and I think will suffice to shew the value of a collection which in its present state is lying entirely unavailable.

IX.—*On the Cultivation of Cotton in Inaia.—By* J. M. Heath, *Esq.*

In the year 1818, the attention of the Madras Government was directed to the subject of the introduction of improved descriptions of agricultural produce into India. At that time I held the situation of Commercial Resident of Salem and Coimbatore, and instructions were sent to me by the Board of Trade, to attempt to introduce the cultivation of Bourbon cotton into those districts.

Being entirely unacquainted with the subject myself, I requested my friend Mr. J. M. Strachan, of the house of Arbuthnot and Co., to procure information for me upon the subject, from Mr. G. A. Hughes, of Tinnevelly, whom I knew to have been long engaged in the cultivation of Bourbon cotton.

In consequence of this application, I received the accompanying paper, drawn up by Mr. Hughes, and I have great pleasure in laying it before the Committee, as it appears to me to contain more information upon the cultivation of this valuable plant, than I have ever met with elsewhere.

In my endeavours to introduce the cultivation of Bourbon cotton into a part of the country where it had never before been tried, I had to encounter the usual difficulties which attend on the introduction of any novelty in agriculture: but these difficulties gave way to perseverance, and at the end of four years, I had the satisfaction to see the experiment completely successful. In the season 1823-4, I procured from the district of Coimbatore, 500 bales of clean Bourbon cotton, of 300 lbs. each, and the natives were by that time so well satisfied that the cultivation of this article was more profitable to them than that of the indigenous species, that, I believe, had encouragement to the cultivation been continued, it would, by this time, have completely superseded that species of indigenous cotton which is cultivated in the light and gravelly soil so abundant in the South of India.

In the Madras territories, two varieties of the cotton plant are cultivated, and they require very different soils: one is an annual plant, called in Tamul, *Oopum Parutti ;* the other is a perennial plant called *Nadum Parutti:* the first comes to perfection only in the black adhesive soil, known by the name of cotton ground, and which appears to be formed from the decomposition of trap rocks: the other plant requires a very light loose soil, such as is formed from the disintegration of granitic rocks, and the soil appears more favourable for

its growth when mixed with the calcareous tufa, known in India by the name of *Kankar*.

It was in soil of this kind, which occurs abundantly in Coimbatore, that my experiments were made: I made an abridgment of Mr. Hughes's paper, and had it translated into Tamul; a copy of this was given to each farmer who agreed to make trial of the seed, and I had a person whose duty it was to go round and inspect the progress of the cultivation, and to make monthly reports to me upon it; at the proper season for pruning the plants, I went myself and showed how the operation should be performed, and I believe that the success of the experiment was, in a great measure, owing to this step. I have never observed that the process of pruning has been adopted by the natives in any branch of their husbandry; and I believe it is quite indispensable for the successful cultivation of the Bourbon cotton.

In the districts on the Coromandel coast, south of Madras, the light soil above described is more abundant than any other; and there is no doubt that the Bourbon cotton plant might be successfully cultivated wherever it occurs: the only point on which my experience differs from that of Mr. Hughes is, as to the influence of vicinity to the sea, upon the cultivation of this plant. He seems to think that situations near the sea are necessary to bring the plant to perfection; my experience goes to show that it will come to perfection at 150 miles from the sea.

At the time I commenced my experiments, the price of cotton (Oopum), was about 3*d*. per pound in the district; this was a high price comparatively, and had been caused by the unprecedented demand for cotton in 1818: the usual prices had ranged from 2*d*. to 2½*d*. To induce the farmers to make trial of the Bourbon seed, I offered them a price for their uncleaned cotton, which would have made the cost of clean cotton about 4½*d*. per pound; the value of the Bourbon cotton in the English market was fully 50 per cent. more than that of the country cotton; and in some instances where proper attention was given to the cleaning, the value of the Bourbon was more than double that of the country cotton.

Before I quitted India, in the year 1825, the situation of Commercial Resident of Salem and Coimbatore was abolished, and the Company discontinued their encouragement of the cultivation of Bourbon cotton in that quarter. The natives not requiring so fine a material for their own use, and not finding a market for it, on the part of European merchants, discontinued the cultivation: and a great proportion of the land which I left under cultivation with Bourbon cotton, was cleared to make room

for grain, or some produce which was more certain of a ready market. The subject was subsequently taken up by a gentleman who had the charge of my private concerns in India during my absence in England, and the provision of Bourbon cotton is, I believe, still continued by him, although I have no means at present of saying to what extent.

Paper by G. A. HUGHES, ESQ., *enclosed in the preceding.*

THE plant is of so hardy a description that it may be safely believed it will grow well in any situation, yet to have it sufficiently productive, much attention must be given to soil as well as to culture. With this view, all very rich, heavy, retentive stiff soils, should never be selected; for although they produce luxuriant plants, yet they have much and more tendency to produce redundancy of wood and leaf than of produce, and almost always to the generating of insects. The red and brown loams, or, indeed, any silicious or calcareous soil, fertile in a moderate degree, are, upon the whole, in my idea, the most suitable and the most fruitful. What is commonly known to us under the denomination of cotton soil, the deep black vegetable loam, is, I think, to be entirely avoided. The Bourbon species has almost in all respects, a character different from the indigenous, and as far as my observation goes, demands a mode of treatment similar to that of America. In the point of climate, the vicinity of the sea, or situations to which the influence of the sea air extends, are, on every account, I believe, to be preferred. The vicinity of the Ghauts, or any situation near high mountains, on our Peninsula, should not possibly be chosen, because the climate near them is certainly likely to be less uniform in the hot months than this shrub requires; a dry soil and a dry atmosphere from March to May, and from July to September, seem almost essential to the good quality of the wool as well as to its productiveness.

Before touching upon the operation of pruning, which I practice twice in the year, and not once only, it might be as well to say something on the culture. I am now entirely convinced the plant will last a great number of years, and will not at all fall off if well and properly managed. The objection to this in other countries is said to be that it produces swarms of insects, but this, I suspect, is the defect of treatment and of soil, rather than the age of the plant, since the youngest plantations are equally liable to this evil. Under the persuasion that it may be preserved with advantage many years, a systematic and careful culture from the very first must be the best. The seeds should be sown, or the young plants be set in straight rows, eight feet apart, and the rows also regularly eight feet asunder. Plac-

ing the little mounds of plants (containing two, or at most three each), at regular squares, in this mode, is of much advantage throughout. The facility for ploughing and hoeing is greater in this than in the common methods. The free admission of sun, the freest circulation of air and light winds, are of the greatest benefit to a perfect culture. This may be mentioned, because I know that too close a cultivation is a common mistake. By the last mode, the plantation may become a close low thicket so much infested by rats and snakes, as almost to be a work of danger to enter it. If the seed can luckily be got into the ground in September, the young plant may be sufficiently strong to resist the pernicious and continued wet of a heavy monsoon. Little is gained by sowing seed in October, November, and December, unless the land is very high, of a dry description, and clean from weeds, which, at this period, generally smother all other vegetation near them. The clear intervals of these months answer well of course for transplanting, and the first week of January, in general, very well also, both for sowing and transplanting. It is well, however, to have the plants well established in the soil some days before the heavy rains, and with this object, I have lately succeeded wherever it was desirable, in transplanting the young plants on the very first rain, and this year early in October. They bear it extremely well in cloudy and light rainy days, and it will succeed without doubt, immediately, if they have a small portion of earth attached to them. Whenever this mode is proposed, a seed bed must be prepared and sown in July, in soil tolerably good, and watered from some well near the place that is to receive the plants in October.

Of late I have given the plantations under my own immediate eye their principal pruning, as soon as ever the heavy rains have passed away, say from the 15th to the 31st December, or just at the time before the sap becomes active. In the fine days of January, I plough the plantation thoroughly three or four times over. In less than two months the whole is again in the finest foliage and in full blossom, and continues in full bearing all the months of March, April, and May. Just at this time, at the crisis of extreme heats, a short suspension may be observed to the production of fruit-buds. I should mention that, at the pruning above adverted to, I clear the plants entirely of all the very young wood, or all with soft green bark, cutting the shrub down generally to two feet high and two feet wide, but leaving all that can be properly left of the firm wood with the strong white and brown bark. In June again there will generally be a good portion of pods still remaining on the plant, and the rain here is at that season very light; and

I find it enough to cut away merely the long straggling twisted soft shoots with diminutive pods; and if this is done very early in June, the better. But under all circumstances, the plant would yield a good produce from July to September, unless it should receive any damage from rain in those months. In June, perhaps, if the soil allows, it is enough to give the plantations a slight hoeing with the mamootis. In the old plantations, nothing seems necessary to be attended to in the monsoon, but draining them of the rain as much as may be practicable.

I know not well how to answer the query regarding the annual produce on any given quantity of land—at least with the precision and satisfaction I would wish to do. It is a very speculative point, and admits of wide limits of estimation. We may learn from books, that from 200 to 300 pounds of clean cotton are produced, and are expected, per acre in the West Indies and in America. Here some of my dependants, to whom I have alloted small spots of land to grow it for me in their way, think they perform wonders if they give me as much as fifty the acre. This is obviously a matter mostly resolving itself into the degree of judgment or diligence exercised in the cultivation, and no less so perhaps in the suitableness of soil and situation. Speaking for myself, I shall be very well content indeed to be sure of getting one hundred pounds the acre of fine clean cotton; and yet, adverting to the very prolific nature of this species of cotton shrub, I can give no good reasons why much more might not be expected. On this point, important as it must be admitted to be, and on all considerations of expense, as compared to the produce from any given measurement of land, I must confess that with all my experience I yet feel an incompetency to impart anything like precise and definite information. I cannot calculate my cotton to cost me less in this country than twelve-pence the pound. The freight is of course paid in England. But it is very obvious that if it were within the possible labours of any individual to produce anything in quantity that was material, the benefit would be abundantly handsome; but the difficulties to carrying it on on a large scale, cannot be known to those who have not engaged actively in the undertaking. The natives can in nothing be trusted, as I have found to my serious loss. But I will pass from these considerations to what is of much more importance.

The extract of a letter I lately received from my London agents, and which I annex, may prove of great utility in pressing upon the attention of your friend, the vast importance which is attached to the process of cleaning. I have known, to my cost, how easily these things may be overlooked: care to this department of the business must

commence from the very gathering of the pods. The cotton should never be picked but at the most mature state; and even then, although gathered in the very hottest weather, the seed contains so much moisture that it is well to have it carefully dried immediately afterwards, two or three days, and before it is set aside; and care too should be taken that it does not at this time contract dirt and sand in the wool. Before I send it to the mill, it is now my practice to have the pods of cotton, as it is attached to the seed, most carefully examined in the first instance, and all the decayed, damaged, discoloured, immature part of it, first separated; at this stage, probably, not less than one-tenth of the whole is rejected in this way—and it is well rejected; it is then put to the mill after a little exposure to the sun in the usual way everywhere. But at the same time that the wool is separated from the seed, I have other women always present to clean it again by hand, as soon as it comes from the mill; all remaining impurities are better detected at this time than if the wool were previously pressed together again. The wool in this way is merely, I may say, *searched*, not pulled or broken. Even in this process there is a loss of scarcely less than five per cent. It is a good day's work for one woman to clean by the mill $9\frac{3}{8}$ pounds of paruttis, or the cotton with the seeds; the wool which is separated is quite as much as another will manage, giving a produce of $2\frac{1}{4}$ pounds on a large average of very fine and extremely clean cotton, which is immediately placed in strong Dungaree bags, until I have enough for a bale.

Extract of a Letter from Messrs. Fairlie, Bonham, and Co., London, 22d April, 1817, *to George Arthur Hughes, of Tennevelle.*

"We enclose the Price-Current of cotton-wool at the present sale at the India House, amongst which it gives us much pleasure to point out your five bales by the *Grant*, which sold from 2*s.* $1\frac{3}{8}$*d.* to 2*s.* $1\frac{7}{8}$*d.* per pound.

"The great improvement which this parcel shows to be attainable in the cultivation of the Bourbon species with you, is indeed very encouraging, and seems to open a fair field to future operations on a more extended scale; you have hitherto succeeded in this instance only, in producing a real equivalent for the Bourbon wool, what we formerly had, being but a distant imitation, and in request only when the true Bourbon was particularly scarce and dear. For it is not the fineness, nor the cleanness of the staple, important as these qualities must always be, that will suffice to raise it to its proper estimation. Evenness of

fibre, and susceptibility of being drawn out into a thread, without the fibre being entangled, are also indispensable, and may be greatly marred by the process of beating with sticks, so as to occasion that entanglement. Managed as the present consignment has been, so much superior to the preceding fifteen bales, any quantity would here meet a ready sale, and we should suppose would amply recompence the trouble and care which it demands.

"We think this is a matter of so much importance, that we have taken a sample from these bags, which we intend to accompany this letter, that, by reference to it, you may keep in view the qualities that would always command this market."—*Journal of the Royal Asiatic Society*, vol. 5, p. 372-8.

Art. X.—*On Indian Iron and Steel; in a Letter addressed to the Secretary to the Royal Asiatic Society of Great Britain and Ireland.* —*By* J. M. Heath, Esq.

In the month of Jnne, 1837, the Managing Directors of the Indian Iron and Steel Company received a letter from Robert Clerk, Esq., Secretary to the Madras Governor, forwarding a copy of your letter of the 17th of February, 1837, addressed to the Governor of Madras, requesting information on the subject of wootz*, or Indian steel: the purport of Mr. Clerk's letter was to ask us to furnish the information and specimens required by you, provided we could do so without inconvenience or detriment to our own interests.

At the time Mr. Clerk's letter was received, I was the only one of the Managing Directors who was in possession of sufficiently detailed information on the subject of the manufacture of Indian steel, to be able to reply to the queries contained in your letter, but as the duties I had to discharge at that time in the superintendence of our iron works at Porto Novo, were exceedingly laborious, it was altogether out of my power to turn my attention to the subject previously to my departure from India, in November, 1837: the leisure afforded by the voyage home has enabled me to resume the subject of

* Wootz, or Oots, is probably the name of steel in the Guzerattee language in use at Bombay, from which place the first specimens of Indian steel were sent to England under that name.

your letter, and I have now the pleasure to communicate to you such information on the subject of Indian steel, as my experience has enabled me to collect.

The ore from which the wootz steel is made, is the magnetic oxide of iron, combined with quartz, of which specimens accompany this letter: the ore varies much in its appearance, according as the grains of quartz and oxide of iron are large or small, but the proportion in which the component parts unite, is nearly uniformly 48 of quartz and 52 of oxide of iron, in 100 parts by weight.

It is found in many parts of the South of India, but the district of Salem is the principal seat of the steel manufacture. The ore occurs generally in the form of low hills, and the quantity of it which is exposed above the surface of the surrounding country, is so considerable, that it is not probable that it will ever become necessary to have recourse to under-ground operations, supposing the smelting of iron ore from this district to be carried on to any extent that can be contemplated.

It is prepared for being smelted by stamping and separating the quartz from it, either by washing it in a current of water, or by winnowing it in the manner in which rice is separated from the husk: in most of the deposits of ore, parts are found in which the quartz is in a state of disintegration, and these, from the greater facility with which they are broken, are always selected by the natives for their furnaces.

The furnace, or bloomery, in which the ore is smelted, is from three to five feet high from the surface of the ground, and the ground is hollowed out beneath it to the depth of from eight inches to a foot: it is somewhat pear-shaped, being about two feet in diameter at the ground, tapering to about one foot diameter at the top: it is built entirely of clay, two men can finish one in a few hours, and it is ready for use next day. The blast is supplied by two bellows, each made of a single goat's skin, with a bamboo nozzle: the two nozzles meet in a clay pipe, which passes about half-way through the furnace at the level of the ground, and by working the bellows alternately, a tolerably uniform blast is kept up; a semicircular opening, about a foot high and a foot in diameter at the bottom, is left in the furnace, and before each smelting, it is built up with clay. The furnace is then filled up with charcoal, and a lighted coal being introduced before the bellows, the fuel in the interior is soon kindled: as soon as this is accomplished, a small portion of the ore previously moistened with water, to prevent it from running through the charcoal, but without any description of flux, is laid on the top of the fuel, and charcoal is thrown over it to fill up the furnace: in this manner ore and fuel are added, and the bellows

plied for four hours or thereabouts, when the process is stopped; and the temporary wall in front of the furnace having been broken down, the bloom is removed by a pair of tongs from the bottom of the furnace: it is then beaten with a wooden mallet to separate as much of the vitrified oxide of iron as possible, and while still red hot, it is cut through the middle with a hatchet, in order to shew the quality of the interior of the mass: in this state it is sold to the blacksmiths, who perform all the subsequent operations of forging it into bars and making it into steel.

The process of forging the iron into bars is performed by sinking the blooms in a small charcoal furnace, and by repeated heatings and hammerings, to free it as much as possible from the vitrified and unreduced oxide of iron: it is thus formed into small bars about a foot long, an inch and half broad, and about half an inch thick; in this state the iron is full of cracks and exceedingly red short; and were an English manufacturer of steel to be told that cast-steel of excellent quality could be made from such iron, he would treat the assertion with great contempt.

It is from this unpromising material, however, that the Indian steel is always made; the bars of iron just described, are cut into small pieces to enable them to pack close in the crucible: a quantity of these pieces amounting to about half a pound, and from that to two pounds, as the mass of steel is required to be of greater or less weight, is then put into a crucible alone, with a tenth part by weight of dried wood chopped small, and the iron and wood are then covered over with one or two green leaves; the mouth of the crucible is then filled up by a handful of tempered clay, which is rammed in so close as to exclude the air perfectly.

The wood which is always selected to furnish carbon to the iron, is the *Cassia auriculata*, and the leaf used to cover the iron and wood is that of the *Asclepias gigantea*, or, where that is not to be had, that of the *Convolvulus laurifolius*. As soon as the clay, used to stop the mouths of the crucibles, is dry, they are built up in the form of an arch, with their bottoms inwards, in a small furnace urged by two goat-skin bellows; charcoal is heaped up over them, and the blast kept up without intermission for about two hours and a half, when it is stopped, and the process is considered complete: the furnace contains from twenty to twenty-four crucibles.

The crucibles are next removed from the furnace, and allowed to cool; they are then broken, and the steel which has been left to solidify is taken out in a cake, having the form of the bottom of the crucible; each cake is the produce of one crucible, and the steel is never

procured from a larger quantity. When the fusion has been perfect, the top of the cake is covered with striæ, radiating from the centre, but without any holes or rough projections on it; when the fusion has been less perfect, the surface of the cake has a honey-combed appearance, caused probably by particles of scoriæ and unreduced oxide in the bar-iron, and often contains projecting lumps of iron still in the malleable state.

The crucibles are formed of a red loam, which is very refractory, mixed with a large quantity of charred husk of rice; they are made by taking a lump of the tempered clay in one hand, and giving it a rotatory motion, while it is hollowed out by the fingers of the other hand: each crucible serves only for one operation.

The natives prepare the cakes of steel for being drawn into bars by annealing them for several hours in a charcoal fire, actuated by bellows, the current of air from which is made to play upon the cakes while turned over before it at a heat just short of that sufficient to melt them. It appears from this, that in order to insure the fusion of the contents of the crucible, it is found necessary to employ a larger dose of carbon than is required to form the hardest steel, and that this excess is afterwards got rid of by annealing the cakes before a current of air at a high heat, the oxygen of the air combining with and carrying off the excess of carbon in the gaseous form: without this operation none of the cakes would stand drawing into bars without breaking.

The only fuel employed by the natives of India throughout the different stages of iron and steel making is wood charcoal. The magnetic oxide of iron, when separated from the quartz with which it is naturally combined in the ore from which the wootz steel is made, consists of 72 per cent. of iron and 28 of oxygen. The native method of smelting the ore is so exceedingly imperfect, that the produce from their furnaces in bar-iron does not average more than fifteen per cent.

When specimens of Indian steel were first examined by chemists in England, they were quite unable to discover the process by which it had been manufactured. The late Dr. Pearson published an account of his examination of this substance in the seventeenth volume of the *Philosophical Transactions*, and the result of his observations is in these words: "We may without risk conclude that it is made directly from the ore, and consequently that it has never been in the state of wrought-iron." Dr. Buchanan's *Travels in the South of India* were published in the year 1807: they contain a very minute and correct account of the native processes of smelting iron and making it into steel, illustrated by engravings. Dr. Heyne's *Tracts on India*, were

published in 1814, and they also contain an account of both processes, along with a very interesting letter from the late Mr. Stoddart upon the quality of Indian steel, which he pronounces to be decidedly superior to any other description of steel; yet in page 223, of the first volume of the *Treatise on Metals*, lately published, it is stated, "that the wootz of India, in the state in which we receive it, is the immediate product of the ore, seems to be undoubted."

The principle of the Indian process is so different from that practised in England for making cast-steel, that it is not surprising that in the absence of all information upon the subject, Dr. Pearson should have formed an erroneous opinion as to its nature. It has always appeared to me one of the most astonishing facts in the history of the arts, that the Hindus should be in possession of a process, the theory of which is extremely recondite, and in the discovery of which, there seems so little room for the agency of chance: it is impossible to suppose, however, that the process was discovered by any scientific induction, for the theory of it can only be explained by the lights of modern chemistry: in fact, all speculation upon the origin of the discovery seems useless. It appears an easy matter to trace the successive steps of the steel manufacture in Europe. In Europe, steel seems first to have been made in modern times in Germany; the process consisted in partially decarbonating cast-iron in a finery, and bringing the metal under the hammer before the process for converting it into malleable iron was completed: this was, of course, the work of chance, as was also the further discovery that the iron manufactured from some kinds of iron ore, was fitter for making this natural steel, as it is called, than that made from other ore: this was for a long time the only description of steel made in Europe, and although the manufacture of cutlery has been established in England for some centuries, yet the only steel used for this purpose, for a very long period, was the natural steel of Germany.

As soon as chemical investigation had discovered that steel consisted of pure iron united to a very small proportion of carbon, an obvious experiment would be to endeavour to form steal by synthesis; and hence the process of subjecting pure malleable iron to a high heat in contact with carbon, producing blistered steel as the result. This step in the manufacture was found to be a great improvement upon the German steel, and the next step which would immediately suggest itself, that of welding several bars of blistered steel together, and drawing them down into a single bar under a very heavy hammer, forming what is called shear-steel, was found still further to improve the quality; still it was found that all these descriptions of steel possessed defects which rendered them unfit for purposes which required a high polish and a fine and strong edge: these defects could evidently be traced

to impurities in the body of the steel, or variations in its quality; and it would seem an obvious suggestion to endeavour to equalize the quality of the steel by reducing it to the fluid state in a close vessel, so as to prevent the dissipation of its carbon by exposure to the air at a high temperature. This is, in fact, the process now followed in England for making cast-steel, which is the only description of steel fit for fine cutlery; and simple and inartificial as the process appears, it was only discovered in England about the middle of the last century.

The antiquity of the Indian process is no less astonishing than its ingenuity. We can hardly doubt that the tools with which the Egyptians covered their obelisks and temples of porphyry and syenite with hieroglyphics were made of Indian steel. There is no evidence to shew that any of the nations of antiquity besides the Hindús were acquainted with the art of making steel. The notices which occur in the Greek and Latin writers on this subject serve only to betray their ignorance of it: they were acquainted with the qualities and familiar with the use of steel, but they appear to have been altogether ignorant of the mode in which it was prepared from iron. The arms and cutting instruments of the ancients were all formed of alloys of copper and tin, and we are certain that tools of such an alloy could not have been employed in sculpturing porphyry and syenite.

Had the ancient nations of the west been in possession of the process of converting iron into steel, there can be no doubt that they would have used it in the fabrication of their arms, for in all parts of the world where steel is made, it can be sold much cheaper than copper. The price of steel in India is about one-fifth of the price of copper, but the expense of transporting it from India to Europe and Egypt by the ancient routes of commerce would have enhanced its price so much as to restrict the use of it to such articles as required to be possessed of a degree of hardness which could not be imparted to any other metal. One certain fact has reached us regarding the antiquity of the steel manufacture in India: Quintus Curtius mentions that a present of steel was made to Alexander of Macedon, by Porus, an Indian chief, whose country he had invaded. We can hardly believe that a matter of about thirty pounds weight of steel would have been considered a present worthy the acceptance of the conqueror of the world, had the manufacture of that substance been practised by any of the nations of the west in the days of Alexander. We may judge from the extent of the present, how much the cost of the article had been enhanced by transport from the place of its manufacture to the country of Porus.

We know that a maritime intercourse was maintained from the remotest antiquity between the Malabar coast, the Persian Gulf, the coun-

try about the mouths of the Indus and the Red Sea; and it appears reasonable to conclude that the steel of the South of India found its way by these routes to the country of Porus, to the nations of Europe, and to Egypt.

It appears then that the claim of India to a discovery which has exercised more influence on the arts conducive to civilization and manufacturing industry, than any other within the whole range of human inventions, is altogether unquestionable. What a theme for a reflective mind is the consideration of what would have been the social condition of the human race had the art of converting iron into steel still remained undiscovered.

A few remarks seem called for, regarding the distinguishing peculiarity of the Indian process of steel-making.

It will have been observed that it differs from the ordinary English process, from the circumstance of the iron being put into the crucible in the pure state, and without having gone through the process of cementation or conversion into blistered steel.

That iron could be converted into cast-steel by fusing it in a close vessel in contact with carbon, was a discovery made by Mr. D. Mushet about the year 1800. This was undoubtedly the original idea of a man of talent, following the light thrown on the theory of steel-making by the discoveries of modern chemistry. The substances Mr. Mushet proposed to use, were " charcoal-dust, pitcoal-dust, plumbago, or any substance containing the coaly or carbonaceous principle." Now this specification unquestionably comprises the principle of the Indian process, which adopts the use of dry wood, which is a "substance containing the coaly or carbonaceous principle." I believe, however, that Mr. Mushet*, in practice, confined himself to the use of charcoal-powder in preference to dry wood, in consequence of the comparatively small bulk of the former required to carbonate the iron, and the consequent saving of space in the crucible.

In the year 1825, Mr. Charles Mackintosh† took out a patent for converting iron into steel by exposing it to the action of carburetted-hydrogen gas in a close vessel, at a very high temperature, by which

* Mr. Mushet took out a patent for this process, but, owing to causes entirely unconnected with the merits of the discovery, it was never successfully carried into practice.

† The patentee of the Indian-rubber waterproof fabrics. Mr. Mackintosh also took out a patent for his process for steel-making; but although I have seen samples of the steel made in this way, yet the process was not found to answer on a large scale: it was found impossible to keep the chambers in which the bars of iron were suspended air-tight at the very high temperature to which it was necessary to raise them in order to enable the iron to combine with the gaseous carbon.

means the process of conversion is completed in a few hours, while by the old method it was the work of from fourteen to twenty days.

Now it appears to me that the Indian process combines the principles of both the above described methods: on elevating the temperature of the crucible containing pure iron and dry wood and green leaves, an abundant evolution of carburetted-hydrogen gas would take place from the vegetable matter, and as its escape would be prevented by the luting at the mouth of the crucible, it would be retained in contact with the iron, which, at a high temperature, appears from Mr. Mackintosh's process to have a much greater affinity for gaseous than for concrete carbon; this would greatly shorten the operation, and probably at a much lower temperature than were the iron in contact with charcoal powder. In no other way can I account for the fact that iron is converted into cast-steel by the natives of India in two hours and a half, with an application of heat, that, in this country, would be considered quite inadequate to produce such an effect, while at Sheffield it requires at least four hours to melt blistered steel in wind furnaces of the best construction, although the crucibles, in which the steel is melted, are at a white heat when the metal is put into them, and in the Indian process, the crucibles are put into the furnace quite cold.

I do not believe that the Indian process exercises any influence upon the quality of the steel; its only advantage appears to be that it enables the Hindú to accomplish an object with the very imperfect means of applying heat within his reach, which it would be altogether hopeless for him to attempt, were he to imitate the steps of the European process.

It seems probable that the selection of particular kinds of vegetable matter to afford carbon to the iron, may not be altogether a matter of fancy. The Indian steel-maker of course knows nothing of the theory of his operations: he is satisfied with knowing that he can convert iron into steel by fusing it with what he calls "medicine," and this medicine experience has taught him must be dried wood and green leaves; and as different woods and leaves very probably contain carburetted-hydrogen in very different proportions, experience may have taught the Hindoo that he can make iron pass into the state of steel more quickly and with a smaller bulk of particular kinds of vegetable matter, than with others. The *Cassia auriculata* is the only wood I have ever seen used for the purpose; it contains a large quantity of the extract called catechu: the leaf of the *asclepias* contains an acrid milky juice: the leaf of the *convolvulus* is in no respect remarkable.—*Journal of the Royal Asiatic Society*, vol. 5, p. 390-7.

XI.—*Proceedings of the Madras Literary Society and Auxiliary of the Royal Asiatic Society.*

13*th January* 1840.—*The Annual General Meeting of the Society :— The Hon. Sir* Robert Comyn, *President, in the Chair.*

The Secretary submitted to the Meeting, their statements of the Society's account for the past year.

Abstract Statement of the Funds of the Madras Literary Society and Auxiliary of the Royal Asiatic Society, from the 1*st January, to the* 31*st December* 1839.

	Disbursements.			Receipts.		
Balance in favour of the Society as exhibited in the statement submitted to the annual General Meeting, held on the 30th January 1839.	....	..	..	482	11	9
Total Amount of subscriptions received from the 1st January to the 31st December 1839	....	..	..	4270	5	4
Difference of interest in favour of the Society as stated in Messrs. Binny and Co's account closed on the 31st December 1839........	....	..	..	13	12	9
Messrs. Binny and Co's. commission on amount of receipts.......	42	11	3			
Remitted to Messrs. Wm. H Allen and Co. booksellers..........................	2042	8	10			
Pay of the Establishment....................	1599	4	0			
Postage..................................	78	10	0			
Stationery......	35	1	0			
Cooly hire...............................	2	0	6			
Sundries	41	0	0			
Expenses incurred in binding books.......	18	0	3			
Subscriptions for the Bombay Courier and Army List...........................	68	0	0			
Subscriptions for the Bengal Herald and Army List.	34	0	0			
Books purchased at Madras	64	8	0			
Paid for printing advertisements, &c......	9	1	0			
Paid for printing the Catalogue of the books in the Library	92	12	0			
Paid for paper to print the Catalogue........	42	0	0			
	4169	8	10	4766	13	10
Deduct disbursements..................				4169	8	10
Balance in favour of the Society.................				597	5	0

Abstract Statement of the Funds of the Asiatic Department.

	Disbursements			Receipts		
Balance in favour of the Society as exhibited in the statement, submitted to the annual General Meeting, held on the 30th January 1839	....	..	..	1107	7	0
Total amount of subscriptions received from the Ist January to the 31st December 1839..	....	..	..	1056	10	8
Amount realized by the sale of the Madras Journal of Literature and Science	....	..	..	1243*	0	0
Difference of interest in favour of the Society as stated in Messrs. Binny and Co's. account current closed on the 31st December 1839..	....	..	..	4	9	5
Messrs. Binny and Co's. commission on amount of receipts	22	15	11			
Remitted to Messrs. W. H. Allen and Co. for printing paper	1043	7	7			
Paid for printing the 22d, 23d and 24th Nos. of the Madras Journal of Literature and Science	1002	15	0			
Pay of the Establishment	798	0	0			
Sundries	42	0	0			
Paid freight, &c. on four boxes of books to London	41	2	7			
	2950	9	1	3411	11	1
Deduct disbursements				2950	9	1
Balance in favour of the Society				461	2	0

The following donations having been made to the Society since the last Annual General Meeting, the thanks of the Society were unanimously voted to the donors:—

Trevandrum Almanac for 1839.......................J. Caldecott, Esq.
Jervis's Address on the various Surveys and other Scientific enquiries instituted by the Honourable East India Company throughout Asia....................Major T. B. Jervis.
Martin's Eastern India 3 vols........................Madras Government.
Lord Brougham's Speeches 4 vols....................Hon. Sir R. Comyn.
The Rev. Mr. Taylor's Examination and Analysis of Col. Mackenzie's Manuscripts 10 copies.........Madras Government.
Notice Historique et Littéraire sur M. Le Baron Silvestre De Sacy.................................Mons. Reinaud.
Evidences taken before the Houses of Parliament at the last renewal of the Charter...................J. C. Morris, Esq.
The Rev. Mr. Taylor's two first Reports on the Mackenzie Manuscripts, reprinted at Calcutta........Rev. W. Taylor.

* Amount since realized and remitted to Messrs. Binny and Co. from the sale of the Journal Rupees 117.

Rask's Samlede Afhandlinger 3d vol................	Royal Society of Northern Antiquities.
Mémoire Sur la Découveite de l'Amérique au dixième Siècle..	do.
A Map of Vinland..	do.
General Chart exhibiting the discoveries of the Northmen in the Arctic Regions and America.	do.
Island á of anverdri tuindu öld eptir krists burd okum aldamótin ar 1000	do.
Julianeshaabs district Sandsynligviis indbefattende Oslerbygden......................................	de.
Miller on Law..	Hon. Sir R. Comyn.
Oriental books and manuscripts......................	Lieut. Newbold.
List of Minerals collected from various parts of the Nizam's territories, the Ceded Districts, Kurnool, the Southern Mahratta Country, Mysore, &c...........	do.
Rev. Mr. Spring's Malayalum Grammar.........	Rev. F. Spring.
Vertebra of a Whale, picked up on the shore at Pulicat.	do.

It was announced to the Meeting that the following gentlemen have been elected members of the Society since the last Annual General Meeting :—

Thomas Clarke, Esq
W. H. Bayley, Esq.
A. Mellor, Esq.
A. P. Forbes, Esq.
Major Moberly,
Captain W. Orr,
Z. Macaulay, Esq.

During the past year the Society has lost 16 members by death, retirement, or departure for Europe.

Read the following letter:—

ROYAL GEOGRAPHICAL SOCIETY.

London, 1*st August* 1839.

Sir,

I have the honor to acquaint you that in accordance with the suggestion of Major T. B. Jervis, Surveyor General of India, the Council of this Society has resolved to present a complete set of its Journal to the public library of each of the ten principal stations in India, and I have now the pleasure to forward a copy consisting of nine volumes for the Library of the Literary Society at Madras, which I am to request you will be pleased to present in the name of the Geographical Society of London.

In making this communication the Council beg to express their hope that this Journal may prove useful to officers who may be about to

undertake journeys in the various parts of India and in the adjacent countries; and also to make known to them that there exists a Society in London specially devoted to the advancement of geography, which will gladly receive, and publish in the best form, the correct account of any journey through a country of which our geographical information may be imperfect, as is the case throughout almost the whole of the vast continent of Asia.

We shall be thankful also for any new maps or works containing topographical details respecting the hitherto undescribed parts of the country adjoining Madras, which may be published in India.

I am desired to express the best thanks of this Society for the donation of the excellent Journal of the 'Madras Literary and Scientific Society' which you have had the kindness to forward to us, and to state that in future we shall gladly exchange our volumes against those published by your Society.

To the Secretary of the
Madras Literary Society, &c.

I am Sir,
Your obedient servant.
John Washington,
Secretary.

P. S.—The nine other stations are Calcutta, Bombay, Hydrabad, Bangalore, Dum-dum, M'how, Delhi, Meerut and Cawnpoor; which I mention in order that officers moving from one station to another, and desirous of consulting the London Geographical Journal, may know where to find it.

I also enclose two copies of a printed paper of Hints for collecting Geographical information—which I shall be obliged to you to allow to lie on your table and be made public.

Resolved.—That the thanks of this Society be communicated to the Geographical Society, with the expression of the willingness of this Society to accede to the request to exchange Journals.*

Read a letter from Lieutenant Newbold, dated 31st December 1839, forwarding for the acceptance of the Society, several oriental books and manuscripts, and the thanks of the Society were unanimously voted to him for his valuable donation.

* The Madras Journal has been regularly forwarded for presentation to the Royal Geographical Society since 1836.—Ed.

Read a letter from the same gentleman, dated the 31st December 1839, transmitting for presentation to the Society, a list of minerals collected from various parts of the Nizam's territories, the Ceded Districts, Kurnool, the Southern Mahratta Country, Mysore, &c., and requesting that it may be published in the first No. of the Journal that shall issue after the Meeting. Thanks were likewise voted to him for this donation.

Read a letter from the Rev. F. Spring, dated 13th January 1840, offering for the acceptance of the Society, a copy of his Malayalum Grammar, which he published last year, and for the museum the vertebra of a whale which was picked up on the shore at Pulicat. The thanks of the Meeting were unanimously voted to him for his donation.

The Meeting proceeded to elect three members for the Committee of Management for the ensuing year, in succession to J. C. Morris Esq. C. T. Kaye Esq. and J. Ouchterlony Esq. who go out by rotation; when A. D. Campbell Esq. and N. B. Acworth Esq were duly elected, and J. Ouchterlony Esq. re-elected.

The business of the Meeting being concluded, the thanks of the Meeting were unanimously voted to the Honourable the President for his able conduct in the Chair.

J. Minchin, *Secretary.* Robert Comyn, *President.*

Thursday Evening, 13*th February* 1840.—*The Venerable Archdeacon* Harper *in the Chair.*

It was intimated that the immediate purpose of the present meeting was (in the words of the requisition), "with the view of establishing regular periodical meetings; when members should be requested to bring with them, as visitors, any friends who feel an interest in the proceedings of the Society."

This question having been put to the meeting, it was unanimously resolved that a meeting of the Society shall take place on the first Thursday of every month; and, after some discussion, it was determined that 8 o'clock in the evening should be the hour for the commencement of business.

The following works were presented :—

Journal of the Asiatic Society of Bengal for September and October 1839.—By the Asiatic Society.

Captain Low's Dissertation on Penang and Province Wellesley.—By Lieutenant T. J. Newbold.

A help in acquiring a knowledge of the English language (English and Canarese). By the same.

Journal of a Tour along the coast of Java and Bali, &c. do.

Aperçu Général sur le Territoire D'Arménie. do.

The Risalah of Shekh Alkhatub—(Arabic). do.

Tasikhi Ferishta. [do.

The History of Seringapatam and Madras in Persian. do.

The translation of the Gospels into Malay.—By Mr. R. L. Brueyn, Batavia 1832. do.

The Poems of Amir Khusroo (in Persian). do.

The thanks of the Society were voted to the donors.

The following communications to the Society were laid before the meeting :—

A description of a new species of Coluber (Naia), by Walter Elliot Esq.

This paper was read and discussed by the meeting ; the stuffed skin of the animal, and a large coloured drawing, were exhibited.

(Published in our present number.)

Notes, principally geological, on Southern India, by Lieut. Newbold, with illustrative specimens of rocks.

(Published in this number.)

Continuation of Mr. Jerdon's Ornithology of Southern India.

60 original drawings of birds, by native artists, coloured from nature under Mr. Jerdon's own direction, were laid on the table, and excited general admiration at their beauty as works of art, and their fidelity to nature. It was intimated that Mr. Jerdon was desirous of publishing a series in lithograph, in the style of those given in illustration of his Catalogue in this Journal.

An account of the direction taken, and effects produced, by a current of electric fluid, which struck the house at the top of Palaveram hill, the property of Colonel Monteith, who witnessed the event :—Communicated by T. J. Taylor, Esq. H. C. Astronomer (with a plan).

A brief sketch of the Life and Writings of Father BESCHI, or VIRAMAMUNI:—Translated from the original Tamil, by A. MUTTUSAMI PILLEI, manager of the College of Fort St. George, and Moonshee to the Tamil Translator to Government.

Some singular spheroidal mineral masses were laid before the meeting by Mr. Elliot and Lieut. Cotton, forwarded by Assistant Surgeon J. Sanderson. They were found 5 miles west of the village of Streepermadoor, in the district of Chingleput, at a depth of from 2 to 3 feet from the surface, in the gravel of the laterite formation. These spheroids were about the size of cocoa-nuts, to which they bore some general resemblance, so as to have conveyed the idea of their being actually fossils, when they were first removed from their matrix. They are hollow within, or contain some aluminous earth, and the shell is composed of a kind of sandstone grit, very hard and compact, consisting of a dark ferrugenous paste, embedding minute fragments of quartz.

Specimens of the supposed fossils from the Peam Gunga River in the Hyderabad country, mentioned at p. 477 of the 19th No. of this Journal, were on the table, and excited much speculation as to their nature; the result of which will be noticed at a future time.

Thursday Evening, 5th March 1840.—*The Hon. Sir* ROBERT COMYN, *President, in the Chair.*

The following work, presented to the Society, was laid on the table:—

Journal of the Asiatic Society of Bengal for November 1839.—By the Asiatic Society.

The thanks of the Society were voted for the same.

The following communications to the Society were laid before the meeting:

Colonel MONTEITH's continuation of his Translation of Count Meyendorff's Journey from Orenbourg to Bokhara.

Mr. C. P. BROWN's Essay on the Creed, Customs and Literature of the Jangams—(Read to the Meeting, and published in our present No.)

Thursday Evening, 2d April 1840.—Dr. Wylie, *in the Chair.*

The following books, presented to the Society, were laid on the table :—

Result of Observations at the Madras Observatory for 1838 and 1839. —By the Madras Government.

Narrative of the Discoveries of Sir Charles Bell in the Nervous System—By Alexander Shaw, Esq.—Presented, on the part of the author, by James Shaw, Esq.

The following communication to the Society was presented :—

Captain J. Campbell on a supposed new mineral, a Titanate of Magnesia.

Thursday Evening, 7th May 1840.—A. D. Campbell, Esq. *President of the Committee of Papers, in the Chair.*

The following work, presented to the Society, was laid on the table, and thanks voted for the same :—

Mr. Piddington's Pamphlet on the Law of storms as applying to the tempests of the Indian and Chinese seas.—By the Government of India.

The following communications to the Society were presented :—

Continuation of the Catalogue of the Birds of Southern India, by T. C. Jerdon, Esq.—Tribe *Scansores.*

Account of a carboniferous stratum at Baypoor, near Calicut, Malabar coast. By Lieut. Newbold (Read to the meeting).

Desiderata in Indian Geology. By the same.

Specimens of the silicified wood from Turivacary, with lateritic rock, which appears to be the matrix in which the fossil is found, were presented in the name of C. T. Kaye Esq. of the Civil Service.

Specimens from the same locality were also presented, received from Lieut. Newbold ; also specimens of the shell limestone deposit near Pondicherry, presented by the same gentleman.

NOTE to page 86.

We must be excused from entering into a disquisition on the mineralogical differences of rocks, which would lead to endless, and, we fear, fruitless controversy. It is not the practice of the Editors of this Journal to remark on the communications of those who address the Society; the facts narrated and the opinions maintained are considered to be exclusively on the responsibility of the authors, and as such are usually submitted, without comment, to the Press. The Editorial note appended to our last number was not intended to be in contravention of Captain Campbell's statements, but solely to vindicate the scientific character of a respected correspondent now no more. We still maintain that Dr. Benza describes no other rock specifically than the hornblende rock or greenstone found *in situ* at Seringapatam; on the authority of Buchanan, and deceived by the external resemblance between that rock and the material of the pillars, he states, in general terms, the identity of the two; but he did not examine the *internal structure* of the pillars, nor did he visit the quarry at Cudhully; if he had, we are quite sure he would not have pronounced either of them to be hornblende.

We must here mention, however, that we have been led into an error regarding Lieut. NEWBOLD's specimen, by the circumstance of his stating the pillars at Seringapatam and the stone of the quarry at Cudhully to be a variety only of the steatite which he was describing a specimen of from another locality. The latter is undoubtedly what he termed it; and the former is evidently one of the numerous varieties of serpentine, a nearly allied rock to steatite; judging from Lieut. NEWBOLD's specimen, and also from a fragment from the pillars themselves, politely sent down to Madras by Captain Campbell for our inspection.—EDITOR.

NOTE to page 40.

With reference to the colour of the Naga, Mr. Elliot subsequently writes, "it should be dark yellowish-ash, I think, but really the hue puzzles me."—EDITOR.

XII.—*Horary Meteorological Observations made agreeably with the suggestions of Sir* John Herschel.

At the Madras Observatory.—By T. G. Taylor, Esq. *H. E. I. C Astronomer.*

Date.	Time.	Barometer.	Thermometer.	Wet bulb.	Direction of wind.	Strength of wind.	Remarks.
Dec. 21	6 A. M.	30,100	71,8	68,5	N	1	Flying clouds, gentle wind.
	7	30,110	72,0	68,5	N	1	Flying clouds, do. do.
	8	30,150	74,0	70,0	N W	1	Haze do. do.
	9	30,170	76,6	72,0	N	1	Do. do. do.
	10	30,174	79,0	73,8	N	2,3	Flying clouds, strong wind.
	11	30,168	79,8	76,1	N N E	2,3	Flying clouds, do. do.
	12	30,136	80,8	72,5	N E	2	Cloudy do. do.
	1 P. M.	30,100	79,7	72,4	N E	2	Do. do. do.
	2	30,086	79,5	72,5	E N E	2	Do. do. do.
	3	30,073	78,8	72,0	N E	3	Do. do. do.
	4	30,064	78,8	70,5	N N E	2,3	Thick haze do. do.
	5	30,072	77,8	70,3	N E	2,3	Do. do. do. do.
	6	30,084	76,4	69,5	N E	2	Haze, moderate wind.
	7	30,102	76,0	69,5	N E	2	Do. do. do.
	8	30,122	75,9	69,3	N E	1	Do. gentle wind.
	9	30,132	75,9	69,3	N E	1	Do. do. do.
	10	30,130	75,7	69,5	N E	1	Flying clouds do. do. dew.
	11	30,120	74,8	69,5	N E	1	Do. do. do. dew.
	12	30,112	72,4	69,0	N	1	Do. do. do. dew.
	1 A. M.	30,084	72,3	68,9	N	1	Do. do. do. dew.
	2	30,058	72,2	68,5	N W	1	Do. do. do. dew.
	3	30,034	72,0	68,4	N W	1	Do. do. do. dew.
	4	30,044	71,6	68,2	N W	1	Clear do. do. dew.
	5	30,038	71,4	68,5	N W	1	Clear do. do. dew.
22	6	30,062	70,3	68,5	N W	1	Flying clouds do. dew.
	7	30,082	70,8	69,3	N W	1	Do. moderate wind.
	8	30,106	72,9	70,7	N	1	Do. gentle wind.
	9	30,124	76,2	72,5	N	1	Clear do. do.
	10	30,132	78,7	72,7	N	1,2	Flying clouds, strong wind.
	11	30,122	79,8	72,0	N E	1,2	Do. moderate wind.
	12	30,092	79,6	71,5	E by N	1,2	Do. do. do.
	1 P. M.	30,065	80,3	71,3	N E	1,2	Do. do. do.
	2	30,050	80,6	71,3	E N E	1,2	Do. do. do.
	3	30,026	80,6	72,5	N N E	1,2	Do. do. do.
	4	30,040	80,4	71,9	NE by E	1,2	Do. do. do.
	5	30,066	79,0	72,5	N E	1,2	Clear do. do.
	6	30,060	77,2	70,8	N E	1	Clear gentle wind.

METEOROLOGICAL REGISTER KEPT AT THE MADRAS OBSERVATORY; FOR THE MONTH OF OCTOBER, 1839.

Days.	Barometer at 10 A. M.	Barometer at 4 P. M.	Barometer at 10 P. M.	Ther. at 10 A. M.	Ther. at 4 P. M.	Ther. at 10 P. M.	Wet Bulb 10 A. M.	Wet Bulb 4 P. M.	Wet Bulb 10 P. M.	Rain Sun-rise.	Rain Sun-set.	Evaporation.	Direction of Wind 10 A. M.	Direction of Wind 4 P. M.	Direction of Wind 10 P. M.	Weather 10 A. M.	Weather 4 P. M.	Weather 10 P. M.	Remarks.	
1839	Inch.	Inch.	Inch.	o	o	o	o	o	o											
Oct. 1	29,944	29,842	29,942	86,0	89,0	85,7	7,5	8,0	7,1	......	......	......	S W	S E	S W	Clear	Cloudy	Fl. cl.	lightning.—dew.	
2	,974	,876	,980	85,0	89,6	86,6	6,4	6,6	6,0	......	......	2,650	W	W	S	Haze	Cloudy	Cloudy	do.	
3	,994	,874	,984	86,0	89,-	84,9	7,5	7,5	8,9	......	......	......	S W	E	S	Cloudy	Cloudy	Do.	do.	
4	,974	,860	,956	85,6	89,4	85,7	7,6	9,4	4,3	......	......	......	W	E	S	Clear	Do.	Fl. cl.	do.	dew.
5	,960	,886	—	85,8	89,5	—	8,4	9.0	—	......	......	......	W	E	—	Do.	Fl. cl.	Haze	do.	
6	,988	—	,968	86,3	—	86,6	5,1	—	5,4	......	......	......	S	—	S	Fly. cl.	—	Fl. cl.	do.	
7	,990	,870	,954	85,6	88,5	86,8	7,3	7,6	5,2	......	......	......	S W	S	S W	Haze	Fl. cl.	Do.	do.	
8	,988	,864	,950	85,1	89,0	86,2	7,1	5,5	4,0	......	......	......	W	S. SE	S	Cloudy	Fl. cl.	Do.	do. thun. in the evening.	
9	,950	,838	,936	86,7	89,4	84,9	5,2	8,0	5,0	......	......	2,771	W	NE. E	N E	Clear	Th. hz.	Clear	do.	
10	,950	,838	,922	87,0	88,5	83,2	8,0	8,5	2,6	......	......	......	E	E	E	Fly. cl.	Haze	Do.	do.	
11	,950	,832	,912	85,9	88,0	81,3	5,9	8,0	5,1	......	......	......	W	E	S E	Haze	Th. hz.	Haze	do.	
12	,942	,844	,902	86,4	88,5	82,9	6,4	8,0	3,1	......	......	......	S W	E	S W	Fly cl.	Cloudy	Clear	do.	
13	,940	—	,922	84,8	—	85,0	5,8	—	3,1	......	......	......	S W	—	S	Haze	—	Fly. cl.	do.	
14	,950	,830	,930	86,0	89,0	85,0	6,5	7,0	6,0	......	......	......	S W	S E	S W	Do.	Fl. cl.	Cloudy	thunder & vivid lightning.	
15	,960	—	,942	85,9	—	82,4	6,9	—	2,7	......	......	......	W	—	S E	Clear	—	Clear	lightning	dew.
16	,966	—	,962	86,3	—	82,5	12,3	—	6,5	......	......	2,571	S E	—	E	Do.	—	Do.	do.	do.
17	,994	—	30,010	84,7	—	83,9	7,2	—	8,4	......	......	......	W	—	E	Do.	—	Do.	do.	do.
18	30,040	—	,014	84,8	—	83,3	7,8	—	7,3	......	......	......	S E	—	E	Do.	—	Do.	—	do.
19	,050	—	,018	84,7	—	81,9	6,7	—	7,1	......	......	......	S	—	N E	Do.	—	Do.	—	do.
20	,036	—	,000	84,9	—	82,0	7,4	—	—	......	0,215	......	S W	—	—	Fly. cl.	—	Do.	lightning.	do.
21	,024	,916	29,973	84,3	86,8	82,0	6,3	8,3	—	......	......	......	E	E. SE	—	Fly, cl.	Clear	Do.	do.	do.
22	,010	,902	,960	85,5	85,7	—	6,5	5,7	—	......	......	2,537	S W	E. NE	—	Fly. cl.	Fl. cl.	Do.	do.	do.
23	,046	,943	—	85,1	85,6	—	5,6	12,1	—	......	......	......	E	E	—	Cloudy	Haze	—	do.	do.
24	,066	,984	—	84,3	85,4	—	9,3	5,9	—	......	......	......	E	N E	—	Fly. cl.	Fl. cl.	—	do.	do.
25	,084	,988	—	83,3	83,4	—	10,3	10,4	—	......	......	......	N E	N. NE	—	Haze.	Fl. cl.	—	do.	—
26	,062	,961	—	82,8	85,0	—	5,8	8,0	—	......	......	......	N E	E	—	Fly. cl.	Th. hz.	—	—	dew.
27	,017	—	29,980	83,3	—	81,9	5,1	—	6,7	0,345	......	......	W N W	—	E	Fly. cl.	—	Clear	lightning.	dew.
28	,038	,954	—	84,0	86,0	—	5,0	7,5	—	......	......	......	N E	N E	—	Clear	Clear	—	do.	dew.
29	,046	,966	30,050	84,8	85,7	84,6	5,9	7,2	5,1	......	......	......	N E	E. NE	N E	Fly. cl.	Fl, cl.	Clear	do.	—
30	,100	,976	,036	83,7	84,3	82,8	4,2	6,8	4,8	0,432	......	2,924	S E	N E	N E	Cloudy	Cloudy	Fl. cl.	do.	—
31	,080	,976	,050	84,0	84,5	82,2	4,5	8,0	4,4	......	......	......	N E	N E	N E	Do.	Fl. cl	Cloudy	do.	thunder.
Mean	30,004	29,901	29,970	85,1	87,3	84,1	6,8	7,9	5,4											

METEOROLOGICAL REGISTER KEPT AT THE MADRAS OBSERVATORY; FOR THE MONTH OF NOVEMBER, 1839.

Days.	Barometer at 10 A. M.	Barometer at 4 P. M.	Barometer at 10 P. M.	Ther. at 10 A. M.	Ther. at 4 P. M.	Ther. at 10 P. M.	Wet Bulb. 10 A. M.	Wet Bulb. 4 P. M.	Wet Bulb. 10 P. M.	Rain. Sun-rise.	Rain. Sun-set.	Evaporation.	Direction of wind. 10 A. M.	Direction of wind. 4 P. M.	Direction of wind. 10 P. M.	Weather. 10 A. M.	Weather. 4 P. M.	Weather. 10 P. M.	Remarks.
1839	Inch.	Inch.	Inch.	o	o	o	o	o	o										
Nov. 1	30,052	29,914	30,036	76,3	80,4	79,0	1,3	2,4	0,5	2,208	0,356	......	N	N by E	N W	Cloudy	Cloudy	Cloudy	—lightning and thunder.
2	,072	,986	,038	75,1	77,7	78,4	1,6	1,4	1,7	1,147	0,864	......	N E	N W	N E	Rain	Rain	Cloudy	do. do.
3	,098	30,000	,074	79,7	80,5	79,6	1,3	2,0	2,6	0,079	0,257	......	N	N. N W	S W	Driz.ra.	Cloudy	Rain	do. do.
4	,104	29,996	,062	78,0	81,0	79,5	0,0	2,0	1,4	1,798	0,637	......	N E	E.	E	Cloudy	Cloudy	Cloudy	do. do.
5	,106	,990	,050	77,6	78,6	77.8	0,1	0,6	0,2	0,947	0,874	......	N E	NwbyN	N	Rain	Cloudy	Rain	do. do.
6	,050	,965	,050	79,3	77,0	77,0	1,3	1,5	0,1	0,307	1,091	1,363	N	N E	N W	Cloudy	Rain	Cloudy	do. do.
7	,078	,947	,004	80,3	81,2	79,2	3,8	4,7	1,8	0,010	......	......	N	N N E	N	Fl. cl.	Cloudy	Fl. cl.	do. do.
8	,008	,910	29,986	76,8	78,0	77,6	0,7	0,0	0,6	0,122	2,516	......	N	N	N. N W	Cloudy	Cloudy	Cloudy	do. do.
9	29,968	,904	30,010	77,9	78,0	77,0	0,4	0,8	0,5	1,057	1,234	......	S E	N	SE. E	Cloudy	Cloudy	Cloudy	do. do.
10	,998	,900	29,988	76,6	79,6	77,0	0,1	1,6	0,4	0,467	......	......	Calm	Calm	N W	Cloudy	Cloudy	Cloudy	—lightning.
11	30,010	,885	,950	77,1	78,4	77,0	0,3	2,4	1,6	......	......	......	N W	N N W	N W	Rain	Cloudy	Cloudy	do.
12	29,996	,914	,990	77,5	77,2	75,8	2,5	1,2	0,2	......	......	......	N W	N N W	N. N W	Cloudy	Cloudy	Drizzling ra.	do.
13	30,012	,940	30,010	74,7	75,2	75,0	0,7	0,2	0,2	2,810	2,234	......	N W	N W	N W	Rain	Cloudy	Cloudy	—lightning.
14	,012	,898	29,972	77,2	80,0	75,3	3,4	7,7	2,8	0,094	......	2,312	N W	N	N W	Th. haze	Th. hz.	Fl. cl.	do.
15	29,972	,848	,910	78,1	79,6	76,0	12,1	10,6	6,0	......	......	......	N W	N W	N W	Haze	Th. hz.	Cloudy	——
16	,926	,812	,884	77,2	82,3	77,9	7,2	11,8	5,9	......	......	......	W	S W	S W	Clear	Haze	Haze	dew.
17	,940	,834	,946	77,8	82,5	80,5	6,8	5,0	3,5	......	......	......	S W	S W	S	Clear	Clear	Fl. cl.	do.
18	,968	,862	,968	79,9	84,4	80,2	5,7	5,9	3,2	......	......	......	S W	S E	S E	Clear	Clear	Clear	do.
19	30,026	,905	,986	81,0	84,3	81,0	5,0	5,8	3,4	......	......	......	S W	S E	S E	Clear	Clear	Quite cle.	do.
20	,010	,900	,976	81,2	84.0	80,4	4,2	7,0	4,4	......	......	2,075	S W	S E	Calm	Clear	Clear	Clear	do.
21	,008	,904	,994	81,6	82,4	78,4	3,6	3,9	2,9	......	0,160	......	S W	N. NE	N	Clear	Cloudy	Clear	do.
22	,052	,950	30,036	80,3	83,2	79,8	2,8	8,5	4,3	......	......	......	S W	E. NE	E	Clear	Clear	Clear	do.
23	,122	30,024	,120	80,4	82,0	79,3	4,4	11,3	3,9	......	......	......	N E	N. NE	N E	Clear	Clear	Clear	do.
24	,138	,050	,112	80,3	81,8	79,7	4,3	11,3	3,7	......	......	......	N E	N. NE	N E	Fl. cl.	Fl. cl.	Fl. cl.	do.
25	,164	,072	,150	81,7	82,0	78,0	8,2	9,5	5,5	......	......	......	N E	N E	N E	Fl. cl.	Fl. cl.	Fl. cl.	——
26	,158	,076	,162	80,9	82,0	80,5	6,9	6,7	6,5	......	......	......	N E	N E	N	Fl. cl.	Cloudy	Cloudy	——
27	,190	,098	,168	81,2	82,4	78,6	8,1	10,4	9,2	......	......	2,596	N	N E	N. N E	Cloudy	Fl. cl.	Clear	——
28	,168	,074	,150	78,8	81,0	79,6	7,3	10,0	9,6	......	......	......	N	N. NE	N. N E	Cloudy	Cloudy	Fl. cl.	——
29	,184	,076	,140	81,2	82,4	77,6	10,2	10,9	6,5	......	......	......	N E	E. NE	N E	Fl. cl.	Fl. cl.	Clear	dew.
30	,178	,076	,146	80,0	82,0	76,0	8,0	9,5	7,5	......	......	......	N E	N. E.	N	Clear	Fl. cl.	Fl. cl.	do.
Mean	30,059	29,957	30,036	78,9	80,7	78,3	4,1	5,6	3,4										

METEOROLOGICAL REGISTER KEPT AT THE MADRAS OBSERVATORY; FOR THE MONTH OF DECEMBER, 1839.

Days.	Barometer at 10 A. M.	Barometer at 4 P. M.	Barometer at 10 P. M.	Ther. at 10 A. M.	Ther. at 4 P. M.	Ther. at 10 P. M.	Wet Bulb. 10 A. M.	Wet Bulb. 4 P. M.	Wet Bulb. 10 P. M.	Rain. Sun-rise.	Rain. Sun-set.	Evaporation.	Direction of Wind. 10 A. M.	Direction of Wind. 4 P. M.	Direction of Wind. 10 P. M.	Weather. 10 A. M.	Weather. 4 P. M.	Remarks. 10 P. M.
1839	Inch.	Inch.	Inch.	o	o	o	o	o	o									
Dec. 1	30,196	30,100	30,174	80,0	81,5	79,0	10,0	8,5	9,5	......	......	......	N E	N E	N E	Cloudy	Fl. cl.	Flying clouds—dew—lightning.
2	30,188	,114	,240	79,6	83,0	78,5	10,6	13,3	5,0	......	......	......	N	N N E	N	Clear	Clear	Clear
3	30.194	,100	,182	81,0	82,0	79,2	9,6	10,5	7,7	......	......	......	N E	N E	N E	Clear	Clear	Flying clouds.
4	30,200	,102	,170	78,9	81,0	78,0	7,4	10,0	6,0	......	......	3,068	N E	N E	N	Cloudy	Cloudy	Haze.
5	30,220	,116	,182	79,1	80,0	76,0	9,6	10,0	5,0	......	......	......	N E	N E	N	Haze	Cloudy	Flying clouds.
6	30,210	,100	,180	78,2	80,0	77,8	9,0	9,0	4,8	......	......	......	N W	N N E	Calm	Cloudy	Fl. cl.	Haze.
7	30,180	,092	,142	79,1	82,5	78,2	5,8	10,0	1,9	......	......	......	N W	N N E	N E	Clear	Clear	Flying clouds.
8	30,156	,082	,104	79,9	82,0	77,7	7,9	10,0	6,2	......	......	......	N E	N E	N W	Fl. cl.	Clear	Clear—dew.
9	30,116	,030	,112	78,5	82,0	76,2	4,5	10,0	5,2	......	......	......	N W	N N E	N	Fl. cl.	Clear	Do. do.
10	30,144	,034	,132	78,7	80,0	77,4	5,5	7,0	6,7	......	......	......	N E	N N E	N E	Cloudy	Cloudy	Do.
11	30,136	.028	,124	78,5	81,5	77,9	5,2	10,0	6,9	......	......	2,678	N	N E	N E	Fl. cl.	Clear	Do dew.
12	30,092	29,968	,044	79,0	81,4	78,3	5,0	8,4	6,9	......	......	......	N W	N N E	N E	Fl. cl.	Clear	Flying clouds, dew.
13	30,080	,970	,040	80,1	81,5	78,0	6,1	9,5	6,3	......	......	......	N	N BY E	N E	Cloudy	Haze	Clear, dew.
14	30,092	30,012	,110	81,5	80,3	78,0	9,0	7,6	6,5	......	......	......	N E	N E	N W	Clear	Cloudy	Cloudy—lightning.
15	30,184	,040	,176	81,9	82,5	79,9	6,4	7,5	3,2	......	......	......	N E	N E	N E	Th. hz.	Cloudy	Flying clouds.
16	30,172	,068	,116	81,4	80,2	79,0	1,6	8,9	6,0	......	......	......	N E	N N E	N E	Fl. cl.	Cloudy	Thick haze.
17	30,118	,024	,114	80,0	80,5	79,0	10,3	6,5	4,5	......	......	......	N E	N N E	N E	Clear	Th. hz.	Clear—dew.
18	30,142	,055	,140	78,8	81,2	77,0	5,8	2,7	7,0	......	......	3,013	N E	N N E	N E	Clear	Fl. cl.	Fl. cl. do.
19	30,176	,080	,150	79,0	81,6	77,0	9,3	3,1	7,8	......	......	......	E	N N E	N E	Clear	Fl. cl.	Clear do.
20	30,166	,072	,148	79,6	81,5	77,8	9,7	11,0	6,1	......	......	......	N N E	N N E	N E	Fl. cl.	Clear	Cloudy—few drops of rain at 9 P. M.
21	30,174	,064	,130	79,0	78.8	75,7	5,2	8,3	6,2	......	......	......	N	N N E	N E	Fl. cl.	Th. hz.	Flying clouds—dew.
22	30,132	,040	,122	78,7	80,4	77,8	6,0	9,5	8,0	......	......	......	N	NE BY E	N E	Fl. cl.	Fl. cl.	Clear do.
23	,136	,012	,090	78,4	79,6	77,9	4,4	6,6	4,9	......	......	......	N E	N E	N E	Cloudy	Clear	Do. do.
24	,128	,032	,132	81,2	82,6	78,0	6,8	8,4	4,5	......	......	......	E	N E	N E	Fl. cl.	Fl. cl.	Cloudy
25	—	—	—	—	—	—	—	—	—	......	......	2,801	—	—	—	—	—	dew
26	,084	29,970	,068	81,0	82,2	80,0	6,5	7,5	5,5	......	......	......	E	E SE	E	Fl. cl.	Clear	Clear do.
27	,098	,977	,064	81,5	82,8	80,3	7,9	8,3	1,8	......	......	......	E	E	E	Fl. cl.	Clear	Do. do.
28	,082	,969	,052	81,0	81,5	78,9	6,8	8,5	3,9	......	......	......	E N E	E	E	Fl. cl.	Fl. cl.	Do do.
29	,066	,970	,074	80,3	81,9	78,9	6,3	8,4	5,1	......	......	......	N E	E	E	Fl. cl.	Fl. cl.	Flying clouds do.
30	,116	30,012	,126	80,8	82,8	79,7	6,6	10,1	6,7	......	......	......	E	E	E	Fl. cl.	Clear	Clear do.
31	,202	,078	,172	79,3	82,6	79,6	6,1	10,1	6,1	......	......	......	E	E	E	Fl. cl.	Clear	Flying clouds do.
Mean	30,146	30,044	30,127	80,1	81,4	78,2	7,0	8,6	5,7									

The Instruments with which the foregoing observations are made, are placed in the Western Verandah of the Honourable Company's Observatory; at about 5 feet above the surface of the ground, and 27 feet above the level of the Sea; the thermometer was made on purpose for the Observatory, and at 75° (the only point at which a comparison has been made) it was found to differ insensibly from the Royal Society's Standard; the barometer is one of two Standards which I have lately constructed, and may be depended upon to 0,0100 an inch.

T. G. TAYLOR,
H. C. Astronomer.

ORIGINALS of the passages translated from TELUGU POEMS *in the Essay on Telugu Literature in* NO. 25 *of the* MADRAS JOURNAL, 1839.

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1840.

Originals of the Extracts from Telugu Poems translated in Essay on Telugu Literature by C. P. Brown.

Extract from Dwipada Ramayan, Aranya Canda:— *Tale of the Golden Deer.*

బెనగొని యందంద బేర్చి శోభిల్ల
కపట సారంగమై గదియ నే'తెంచి
యుపమింప న'రుదై'న యొప్పుల నొ'ప్పి
నెమరుచు బులు మేయు నిజ వాల రుచుల
రమణమై వన మయూరముల నా'డించు
తరిగొని యొకమాటు తన కుక్షి రుచుల
పరమై'న వన మె'ల్ల పసిడి గావించు
ధరణి పై నొ'కమాటు తన పార్శ్వ రుచుల
నెరి చంద్రకాంతముల్ నీరు గావించు
కుదియించి యొకమాటు కుప్పించి దాటి
త్రిదశే'ంద్రు చాపంబు తెరగు గావించు
నొ'కమాటు చంగున ను'ప్పరం బె'గసి
ప్రకటించు న'తుల శంపాలతా తతుల
మృగ యూథముల గూడి మెలగుచు ను'ండు
మృగముల బెదరించు మెల్లనె డాగు
న'ంతంత బొడ జూపు న'ట చేర వచ్చు
న'ంతలో బెదరి బిట్టు'దరి కుప్పించు
తరుల నీడల కే'గు తగ పర్ణశాల
చొరబారు న'ంతనే సృక్కి కేళ్లురుకు
వసుధ మూర్కొని జూచు వాలము'ల్లార్చు

దెసలకు చెవి జేర్చు దెలియ నాలించు
కంచుమించై పారు క్రమ్మర జేరు
కుంచితాకృతి చెవి కొన గదలించు
పచ్చిక పట్టున పవళించు లేచు
మచ్చిక నచ్చోటి మౌనుల జేరు
ఖురముల జెవి గ్రోకు కొమ్ముల తుదల
విరుల తీగె గదల్చు విరులెల్ల రాల్చు
నందంద యందమై యా పర్ణశాల
ముందర మృగమిట్లు మోదింపుచుండ
నావేళ సీతయు యలరుల జిదుమ
లావణ్య సీమ యల్లన పర్ణశాల
మంజుల సింజినీ మంజీర రవము
రంజిల్ల వెడలి సౌరభముల బొదలు
పొదలు డాయుచు విరుల్ పొసగ గోయుచును
మదికి విస్మయమైన మాయాంపు లేడి
కనుగొని వైదేహి కడు చోద్యమంది
యినకులాధిపు బిల్చి యిట్లని బలికె
నీపొంత వింతయై యిది యొక్క మృగము
చూపుల కింపార సొంపు గన్పింప
నేపార నున్నది యేమి సోద్యంబొ
భూపాల జూచితే పొదలుచున్నదియు
యెన్నడు పొడగాన మిన్ని చందముల
వన్నెల మృగముల వనభూము లందు
జగతీశ యీ మృగ చర్మంబు నందు
దగిలి సుఖింప నెంతయు వేడ్క బుట్టె
దిననాథ కులనాథ దీని వేగ దగిలి
చని యేసి వెస దీని చర్మంబు దెమ్ము
యది యేల నీ యుపాయంబున దీని
జెదరక పట్టి తెచ్చితి వేని మిగుల

మంచిది ప్రాణేశ మన వన వాస
మెంచంగ నీడేరె నీపైడి మృగము
బురికి వేగమె గొని పోయి యత్తలకు
భరతాదులకు వేడ్క బరపగ వచ్చు
నని సీత ప్రీతిమై నాడు వాక్యములు
విని లక్ష్మణుడు రామవిభు జూచి పలికె
మృగమున కిటువంటి మేనుర్వి గలదె
మృగ మాత్రమున కిట్టి మెళుకువ గలదె
మాయా మృగము దీని మది నమ్మ వలదు
మాయావు లసురుల మాయగా నొప్పు
నధియు గాకిచటి సంయములు మారీచు
డదయుడై మాయావియై యుందు మెలగు
నని బల్క వినమె యా యసుర గాబోలు
మనల భ్రమింప నీమాడ్కి నేతెంచె
చిత్తంబు దీని పై జేరిచి మీరు
నుత్తల పడి పట్ట నూహింప వలదు
అరయ నీవైదేహి యతి ముగ్ధ గాక
మీరును ముగ్ధలే మేదినీ నాథ
యనిన రాముడు సీత యాననాంబుజము
గనుగొని నవ్వి లక్ష్మణు జూచి పలికె
చలియింప నేటికి సౌమిత్రి యింత
యిల రాక్షసుల మాయ లెదురునే నన్ను
మృగమైన గొనివత్తు మేటి రక్కసుల
తెగ నేసి పొరిబుత్తు దెలసి యీ రెంటి
తెంపుమై లక్ష్మణ దీని వెన్నదగిలి
చంపి చర్మము దెచ్చి జానకి కిత్తు
నిన్నినాళ్లకు శలవీకోర్కె వేడె
చిన్నబుత్తునె సీత జెప్పిన మాట

హిత మతివై పూని యీ పర్ణశాల
న'తివ నే'మరకు మీ'వ'ని యప్పగించి
యల్లన రఘురాము డ'నుజు చే ను'న్న
విల్లం'ది మోపెట్టి వెరవొ'ప్ప వెడలి
యాగ మృగంబు మున్న'ర్థి వెన్కొనిన
యా గజా'సుర వైరి యన జెన్ను మీరి
కొంకుచు పొద మరుంగున పొంచి పొంచి
గ్రుంకుచు న'ంతంత గూడ బారుచును
మగుడి జూచుటయును మరుగున నిలచి
తగులుచు దప్పంగ తమక మ'ందుచును
విల్లున'మ్ములు వెన్క వేర్చి చే పట్టి
యల్లన చరణంబు ల'వని పై ని'డుచు
చప్పుడు గాకు'ండ జాడ గన్గొనుచు
చొప్పన ను'య్యన జూచి డాగుచును
నదె చేర బట్టెద న'దె చేర వచ్చె
న'దిమొ లో బడియె నాక'ని చెలంగుచును
నుద్విధంబున బోవ నే'చి యా మృగము
దవ్వుల బొడచూపు దను జేర వచ్చు
పట్టు బోయిన మిట్టిపడి పారి పోవు
కట్టె'ల్ల రాముని గన్న'ంత నిలుచు
లలి దెసలకు బారు లాలతో గూడ
కలవుల బులు రాల్చు చేష్టలు మరచు
నె'సగి వీక్షించి పెల్లె'గసి కేళ్లరుకు
పస మించ మిన్నుల పై బారు చు'ండు
కుప్పించి దాటి చంగున తీగె మెరుపు
ద్రిప్పిన గతి జిహ్వ ద్రిప్పు న'ందంద
కొరవి ద్రిప్పిన రీతి కుమ్మర సారె
తెరగున భ్రమరిగా దిర్ఘరం దిరుగు
బడలిన గతి వ్రగ్గు నజ్జ కే'లేర

వడి సాళువమ్ము కైవడి మింట బారు
నలసి రాముడు వెరగంది నిల్చుటయు
గెలకుల బొడచూపు కికురించి తొలగు
తెగ వేయ దలప నదృశ్యమై పోవు
మగుడి రా దలచిన మరి మ్రోల నిలుచు
కలగొన నిబ్భంగి కాకుస్థ రాము
నలయించి యలయించి యవలకు నవల
గొనిపోయి పోయి యా ఘోర దుర్గముల
కనుబ్రామి యట బోవ గడగిన జూచి
మాయా మృగంబని మది రాము డెరిగి
దాయ నీ వెక్కడ దప్పి పోయెదవు
యగుపడి తెంచు బ్రహ్మాస్త్రంబు దొడిగి
నగములు వణక నర్ణవములు గలగ
జగములు బెదర దిక్చక్రంబు లదర
తెగగొని దృష్టి సంధించి వేయుటయు
నాలోన సొరలుచు నారూప ముడిగి
హా లక్ష్మణా యన్చు హా సీత యనుచు
దెస లద్రువగ మహా దీర్ఘ దేహమున
యసువుల నెడబాసి యసురయై పుడమి
కూలె రాక్షస లక్ష్మి కూలె రావణుడు
గూలె లంకాపురి గూలె నన్నట్లు
యంత మాయా మృగంబవని ద్రెళ్లుటయు
సంతోషమున వాని జానకీ విభుడు
కనుగొని మారీచుగా నిశ్చయించి
తన తమ్ము మాటలు దలచి మెచ్చుచును
సౌమిత్రి సీత యీ చపల రాక్షసుని
యీ మహా రవమున కెంత వెగడరో
నా మెలుంగేగ నార్త నాదంబు జేసె

యే యెడ నేమైరో యెట్లున్నవారో
యని దలకుచు నున్న నాయార్త రవము
విని సీత భీతిల్లి వెస నుర్వి ద్రెళ్ళి
దెలిసి దిక్కుల జూచి ధృతి దల్లడిల్లి
లలి దూలి యెలుగెత్తి లక్ష్మణు జూచి
సౌమిత్రి యిది యేమి చందమో నేడు
రాముడు నిన్నార్త రవమున జీరె
ననఘ నీవా పలు కాలించి వినవు
విన నొల్లవో గాక విన రాదో నీకు
నులుకవు భీతిల్ల వొక యింత గలగ
వలయవు శోకింప వది యేమి నీవు
నానా విధంబుల నా యంతరంగ
మూనిన వగల బెల్లులుకు చున్నదియు
యడవుల కొంటిమై యట పోయినాడు
తడవాయె రాడు యుద్ధంబున నేడు
కడిది రక్కసుల కెక్కడ జిక్కినాడో
తడయక పోవయ్య ధరణీశు కడకు
నన యశ్రు పూరంబు లంతంత దొరగ
జనక నందనకు లక్ష్మణు డిట్టు లనియె
తల్లి నీవేటికి దలకెదు రామ
వల్లభునకు నెందు వచ్చునే కీడు
యెరుగవే నీ కూర్మి హృదయేశు మహిమ
లెఱిగియు వెడమాట లిట్లాడ దగునె
నివ్వటిల్లెడు వగ నిన్నింత గలప
నెవ్వడో యొక దైత్యు డిటు జీరె గాక
యినకులాధిపు డేడ నీ దైన్య మేడ
జనకజ నీవేల చంచలించెదవు
తలమీరి రఘురామ ధరణీశు డొకరి

తొలియక నిలుతురే పోర రాక్షసులు
మిడుతలు గార్చిచ్చు మీఁద గర్వించి
పడి నిల్వ నేర్చునే భస్మమౌగాక
గరుడని పై మహోగ్రత మీర గదిసి
యురగముల్ జచ్చు గాకోపునే గెలువ
ధృత కోపమున కేసరిం జేరి కరులు
మృతి బొందు గాకెట్లు మెరయంగ నోపు
కావున రామాజ్ఞ గడచి నిక్కడించి
పోవ జూచుట నాకు బుద్ధి గాదింక
నీకాన లోన నిన్నిట డించి పోవ
నేకీడు వచ్చునో నే బోవ వెరతు
నెలయక నా మాట లాత్మలో నమ్మి
తలకకు మనవుడు ధాత్రీ తనూజ
మొలసిన రోషాగ్ని లోగి మండుచుండ
నెలయుచు సౌమిత్రి నటు జూచి పలికె
నీవు రాముని దెస నెరయ భక్తుడవు
నీవేల నేడింత నీచుండ వైతి
శ్రీరాము డిట నిన్ను జేరుట వినియు
దారుణ మతి పగ దాయ చందమున
నెమ్మది నున్నావు నీకిది తగునె
తమ్ముడు ప్రాజ్ఞు డుత్తము డీత డంచు
భూపతి నిను నమ్మి పోయిన పిదప
నీపాప వర్తన మేల గైకొంటి
వగు నెరింగితి రాము డసురుల చేత
దెగుట నిక్కము గాగ దెలిసి నీవకట
ననుచిత మతి బూని యాలస్యము డిగి
నను బొంద దలచెదొ నాస బో విడిచి
కాదేని కొని పోయి కైకేయి సుతున

కాదట నొప్పింతు నని దలంచెదవో
యేను నా దగు జీవ మీశరీరమున
బూనంగ దలచుట బుద్ధి గాదింక
దడయక పోయి గోదావరి లోన
బడి ప్రాణములు విడ్తు పల్కు లేమిటికి
నని బెడిదపు మాట లవనిజ బలుక
విని లక్ష్మణుడు చాల వేదన బొంది
రాము బేర్కొని కర్ణ రంధ్రముల్ మూసి
దీమసంబున నాల్గు దిక్కులు జూచి
బలు పాపములు సీత బల్కు చున్నదియు
తెలియ వింటిరె వన దేవతలార
మీరందరును సాక్షి మేదినీ తనయ
ఘోర భాషల నన్ను గ్రూరత బలికె
నని బాష్ప లోచనుండై లక్ష్మణుండు
తన మది నింక నిల్వ తరము గాదనుచు
తల్లి యేనిదె బోయి తడయక నీదు
వల్లభు గొని వత్తు వగవకు మనుచు
పర్ణశాలకు జుట్టు బరులేడు వ్రాసి
వర్ణించి యీ బరుల్ వడి దాటకమ్మ
యెవ్వడేని బరుల్ యిటు దాటి వచ్చు
నేష్వీరు వర తల లవియు నాక్షణమె
యని బల్కి యనలుని యపుడు ప్రార్థించి
వనిత నేమరకు నీవని యప్పగించి
జగతీ తనూజకు సద్భక్తి మ్రొక్కి
పొగలుచు రాము చొప్పన పోయె నంత
నా పావకుడు సీత నప్పుడు దాచి
యా పుణ్యు డొక సీత నపుడ గల్పించె
దీపింప ఘన దివ్య తేజంబు వెలుగ

నా'పణతియు ను'ండె న'ట్ల జింతిలుచు
న'త్తరి రావణుం డ'దరి దా లేచి
యుత్తలంబున చిత్త ము'లుకుచు ను'ండ
కరమున దండంబు ఘన కమండలము
ను'రు లలాటంబున నూ'ర్ధ్వ పుండ్రంబు
గొలదులై వ్రేళ్లను కుశ పవిత్రములు
బొలుపొ'ంద పేరు'రంబున జన్నిదములు
న'రుదుగా వల చేత న'క్ష మాలికెయు
నరి బూని యున్న కాషాయ వస్త్రములు
తులసి పూసల పేర్ల దోడ ముందరికి
వలసొ'ప్ప సొ'క కొంత వ్రాలిన మెడయు
బడుగు దేహంబును పావలు జింపి
గొడుగును వెడ ముడీ గొన్న'ట్టి సిఖయు
న'లవడ గపట సన్యాసి వేషంబు
విలసిల్ల వెడవెడ వ్రేళ్లె'న్నిగొనుచు
కొన్ని మంత్రంబులు గొణుగుచు మునులు
దన్నె'రింగెద ర'ంచు దత్తరింపుచును
దలకొన్న ముదిమిచే తల వడకంగ
న'లయుచు సొలయుచు న'రసి జూచుచును
యంత'ంత నిలుచుచు హరి హరి యనుచు
శాంతి బొందుచు పర్ణశాలా'ంతరమున
కే'తెంచి నిలచిన న'ంత లోపలనె
సీత నె'త్తుక పోవ జేర వీడ'నుచు
తను జూచి వన దేవతలు జగ ద్రోహి
చనుదెంచె వీడ'ని సభయులై యొదుగ
నిక్కంబ ముని వోలి నిలిచిన జూచి
గ్రక్కున వైదేహి కడు భక్తి లేచి
యక్కపటా'త్మ సన్యాసిగా దలచి

మ్రొక్కి హస్తాంబుజంబులు ముకుళించి
సౌమిత్రి వ్రాసిన చక్కని బరులు
నామరంగ గడచియు నతి భక్తి తోడ
పొలతి యభ్యాగత పూజ గావింప
గలుగుచు గైకొని కళ్యాణి జూచి
యో భామ నీవిట్టి యుగ్ర దుర్గముల
నే భంగి జరియించె దిట్లొంటి నిలిచి
రతివొ శ్రీసతివొ భారతివొ గాకున్న
క్షితి మర్త్య సతుల కీ చెలువంబు గలదె
నీ మోము నిండు వెన్నెల పిండు దెగడు
నీ మోవి కెంపు రా నిగ్గులై నెగడు
నీ మేను సౌదామినీ లత గేరు
నీ మాట సుధ తేట నీటుల మీరు
నీ వేణి జలద వేణికల బో దరుము
నీ విలాసంబు వర్ణింప నా దరమె
తరుణి నీ కౌంగిట దగిలి సుఖించు
పురుషుండు దలపోయ పురుషోత్తముండు
కామిని నీ పొందు గల వాడె పూర్ణ
కాముండు శ్రీ నిత్య కళ్యాణు డరయ
నిచ్చట నీ యున్కి కెంతయు వగపు
నచ్చెరు వయ్యెడు నబ్జాక్షి మాకు
నెలత నీవెవ్వరు నీవేల యింత
వలిగెద వీకాననము లోన నిలచి
యంతయు నెరుగింపు మనిన యా సీత
యెంతయు భక్తితో నిట్లని పలికె
వనఘాత్మ రఘురాము నతివ మా తండ్రి
జనకుండు దశరథేశ్వరుడు మా మామ
నా పేరు సీత యున్నత కీర్తి రాము

భూపతి తమ తండ్రి బొమ్మ'న్న వెడలి
కాననంబున నుండ కడగి వచ్చుటయు
యేను లక్ష్మణుడు దోనే'గుదెంచితిమి
యీ యాశ్రమంబున నే'ము మువ్వురము
బాయని నియతి దాపసులమై యుండ
నో'లసి నా ముందర నొ'క పైడి మృగము
పొలచుటయును జూచి భూనాథు తోడ
దాని చర్మము నాకు దగిలి దెమ్మ'నిన
బూని రాముడు బోయె బోయిన పిదప
హా లక్ష్మణ యను నార్త రవంబు
శూలమై నా చెవి సోకి కాడుటయు
వెగిలి లక్ష్మణు డిట్టి బొమ్మ'న్న బోయె
మగుడి రాడీ'ది యేమి మార్గమో దలప
న'ని జెప్పి ముని జూచి యనఘ నీ పేరు
వినుపింపు మి'ందే'ల విచ్చేసి తె'నిన
కొంకక తన దైన కుహకత్వ ము'డిగి
లంకా'ధినాథు డా'లలన కి'ట్లనియె
వనజాక్షి విను మే'ను వనధి మధ్యమున
నే'నయు లంకా పురం బే'లెడు వాడ
రాక్షసా'ధిపుడ విశ్రవసు నందనుడ
యక్షే'శు ననుజుండ నఖిల దిగ్జయుడ
రావణుండ'ను వాడ రణము లో నె'దిరి
దేవా'సురుల నైన దెగటార్చు వాడ
వనిత నీ రూప లావణ్య సంపదలు
విని చూడ వచ్చితి వేడ్కలు నూని
నవయుచు పేద మానవు తోడ గూడి
యువిద యీ యడవుల నుండ నేమిటికి
నా రాజ్య మంతయు నలినాయతాక్షి

కోరి యేలుచు నీవు కొమరు దీపింప
పొగడొంద బెంపొందు పుష్పకం బాది
యగు విమానంబుల హర్మ్యంబు లందు
సుర గరుడోరగాసుర సిద్ధ సాధ్య
వర కన్య లటు గొల్వ వర్తింతు గాక
నీ యంఘ్రి రుచులు నా నిలయ భూములకు
మాయని మణి కుట్టిమము లగు గాక
చెలువ నీ చూపుల సిరులు నా మేడ
కలువ తోరణముతో గలహించు గాక
నీ మందహాసంబు నిత్యంబు నాదు
ప్రేమాంబునిధికి చంద్రిక లగు గాక
రమ్ము నా లంకాపురమ్మున కనిన
యమ్మాట విని సీత యతి భీత యగుచు
ధీర గావున వాని తృణముగా జూచు
తీరున తన కేల తృణము జూచుచును
యా నాతి శ్రీరాము నాత్మలో దలచి
దానవు జూడక తరుణి యిట్లనియె
సార పతివ్రతాచారగా యనక
పోరి నన్నిట్లాడ నుచితమే నీకు
ననిమిష యోగ్య పూర్ణాహుతి శునక
మునకు దుర్లభ మైన పోల్కి భావింప
శ్రీరామ చంద్రుని జెందిన నన్ను
కోరి కామింప నీకును నెన్ని దలలు
పొమ్ము గుట్టున నీదు పురవరంబునకు
నెమ్మది బోక దుర్నీతి యేమేని
దలచితి వేని నా ధవుడు రాఘవుడు
విలసిత శస్త్రాస్త్ర విదిత లాఘవుడు
హర చండ కోదండ హరణ వినోది

ఖర దూషణా'ది రాక్షస శిర శ్ఛేది
నిన్ను నీ వంశంబు నీరు గావించు
నె'న్నంగ నీకు నా'యినకులా'గ్రణికి
నక్కకు సింహంబునకును దోమకును
డిక్కరికిని పయోధికి గాలువకును
వాయసంబునకును వైనతేయునకు
నే'యంతరము పెద్ద లే'ర్పరింపుదురు
యా యంతరము గల్గు న'ఋగాన నీవు
ధీయుక్తి లంకకు తిరిగి పొమ్మ'ంక
న'న విని రావణుం డా'గ్ర హో'దగ్ర
జనితో'గ్ర దృష్టిపై జానకి జూచి
యనుపమా'టోపుడై యా రూప ము'డిగి
తన మనో వీధి గందర్పుడు నిలువ
పది యవస్థలు దోచి భాసిల్లు పగిది
పది తలల్ మణి దీప్తి పంక్తుల నొ'ప్పె
నా' యవస్థల కో'ర్కు ల'వి యిన్మడించి
బా'యని గతి నొ'ప్పె బాహు వి'ర్వదియు
గొ'న వి'న్మడించి కో'ర్కులు పల్లవించె
న'న పద్మ రుచులై'న హస్తంబు లొ'ప్పె
లలి దోచు కో'ర్కె పల్లవముల పుష్ప
ములు బోలె నా'యుధంబులు పొల్పు మీర
బరగు దివ్యా'ంబరా భరణై'క కాంతు
ల'రుదార మదనా'గ్నులై మండు చు'ండ
న'తి భీషణా'కారుడై నిల్చుటయును
ధృతి దూలి సీత భీతిల్లి యేతెంచి
బరుల కి'వ్వల వచ్చి బడియె మూర్ఛిల్లి
యరదంబు డిగి యప్పు'డ'మరారి జేరి
ధరణీ తనయ జూచి తల్లిగా దలచి

యరుదైన వైకుంఠ మింతిది ననుచు
పరతత్వ చిత్తంబు పరులకు నీక
పొరి బొరి నజ్ఞాన బుద్ధి మార్గమున
బడి గాలి బడి వాలు వన లత పోలె
బడి యున్న కనుగొని పంక్తి కంధరుడు
గ్రమ్మి యశ్రువు లొల్క గాదిగ నులియ
గ్రుమ్ముడి వీడగా గుచను లల్లాడ
నందంద తెగి రాల హార రత్నములు
పొందిన భయ శోకముల మేను వణక
నచ్చారు లోచన నదయుడై యెత్తి
తెచ్చి రథంబు పై తెరగొప్ప బెట్టె
దైవంబు ప్రేరేప తన పాలి మృత్యు
దేవత గొనిపోవు తెరగున బేర్చి
యమరారి గొని పోవ నాకాశ వీధి
కమల లోచను దేవి కను విచ్చి జూచి
పెదవులు దడుపుచు బిగి చన్ను దోయి
బ్రిదలిన పయ్యెద బిగియ జేర్చుచును
వేడ్క చకోరముల్ వెన్నెల గ్రక్కు
మాడ్కి తమ్ముల జారు మకరంద మనగ
నానన శశి దోచు నమృత బిందువుల
పూనికె గన్నీరు పొట పొట దొరుగ
మెలుగెత్తి కొదమ కోయిల గూసి నట్లు
పలుమారు విధి దూరి ప్రాణేశు జీరి
యలతయు కోపంబు నతి విషాదంబు
వెలవెల పాటునై విలపింప దొణగె
నో రాఘవేశ్వర యో రామచంద్ర
నీరజ హిత వంశ నీ దేవి నన్ను

ఇత్యాది - ఇత్యాది - ఇత్యాది.

Extracts form the *Tale of Saranga Dhara.*—Episode of the Fairy Fruit.

In these pages the lines of verse are divided at the rhyme. This rhyme is called yati. The second syllable of each line has a rhyme called Prasa.

కాదన తగు తొల్లి   కాలంబు నందు
వైదర్భుఁడను నొక   వసుధీశ్వరుండు
ధాత్రి పాలింపుచు   తనయులు లేక
చిత్ర కాంతుల రామ   చిలుకను బెంచి
గారవింపుచు ప్రొద్దు   గడపుచు సుతుని
మారుగా తగు ముద్దు   మాటల గరపి
పేరెత్తి యందరి   పిలిచి భాషించు
నీరీతి దినదిన   వర్ధిచే బొదలు
కారణంబున కొంత   కాలంబు జనిన
వారినిధి ద్వీప   వనముల నుండి
చిలకలు గుంపులై   శీఘ్రము మాసీమ
వలనొప్పు శృంగార   వనమున జేర
భూపతి నడిగి యా   పులుగుల గలసి
దీపించు శాల్మలి   ద్వీప వనాళి
విహరింప నందొక్క   వింత వృక్షంబు
మహి నొప్ప నమృతంపు   మామిడి యనగ
నాపండు గొని వృద్ధు   లారగించుటను
ప్రాపించు యౌవన   ప్రాయ మాక్షణమె
యది జూచి మా రాజు   కాఫలం బిచ్చి
ముదిమి బాపెద నంచు   మాలిని గరచి
యారూఢ గతి బోవ   నందొక్క పాము
కీరంబు గనుగొని   కినుక నిట్టనియె
నీపండుకై వచ్చి   యేడాది నుండి

కాపాడితిని బహు కష్టార్తి నోర్చి
యుప్పుడి చప్పుడి నున్నాడ నాకు
తప్పించుకొని పోవ ధర్మమా నీకు
నిమ్మని పలికిన నెగసి యా చిలుక
నమ్మతించక రాజ సదనంబు జేరి
పుడమి భర్తకు పండు పొడగాన్పు జేసి
కడు భక్తితో దాని క్రమ మెల్ల దెలుప
సంతోషమున బొంది జనపాలు డొప్ప
డంతరంగమున భార్యకు నిట్టు లనియె
తన చేతి ఫల మహా త్వము తెల్పి నేనె
యనుభవించితి నైన యౌవన తనువు
తరలాక్షి తనకు మా త్రమె గల్గు గాన
ధరణి నీమావి వి త్తనము నాటింప
నది యంకురించి మ హా వృక్ష మగుచు
పదపడి ఫలియించు ఫలముల నెల్ల
వడకు వారి కొసంగ వయసు వారయిన
పుడమి నాకు యశంబు పుణ్యంబు గలుగు
నని పల్కి తన భార్య యనుమతి దాని
ఘన బీజ మిల పాదు గావించి నాటి
జల సేకనమున పో షణము గావింప
మొలిచి క్రమానై వృద్ధి బొందుచు నున్న
చిలుకతో మున్ను జ ర్చించిన పాము
తలగక చను దెంచి తచ్చూత కుజము
క్రింద వల్మీక మీ క్షించి యందుండి
ముందటి పగ దీర్ప మురియుచు నుండె
మరి కొన్ని నాళ్ల కా మామిడి తరువు
విరివిగా కొమ్మల విర్రవీగుచును
విరులంది కాయల విస్తరింపంగ

పరిపక్వమై యూడి   పడె నొక్క పండొక
కన్న వైరము దీర్ప   గా గాచి యున్న
పన్నగం బ’ప్పు డా’   ఫలమును గరచి
గరళంబు నించి వృ   క్షము బాసి పరిగ
పరగ నిజాం’తరీ   పమునకు జనియె
వనములో కావలి   వార లా’పండు
కని కొనిపోయి భూ   కాంతున కొ’సగ
సదయుడై యా రాజు   సచివులు దాను
ముద మొ’ంది మన కి’ది   మొదటి లాభంబు
దొరికె విప్రునకు ముం   దుగ సమర్పించి
తరువాత గైకొన   దగు మన క’నుచు
రాజు పురోహితు   రప్పించి మ్రొక్కి
పూజించి యా’పండు   బుచ్చుకొమ్మ’నిన
విషము నిండిన పండు   విప్రుడు గుడిచి
విష మె’క్కి మూర్ఛిల్లి   విడిచె ప్రాణముల
బహు జనం బ’ది యేమి   పాప మో యనగ
మహనియ్యు డ’గు విప్రు   మరణంబు జూచి
యధిపతి యా బ్రహ్మ   హత్యకు వెరచి
విధిని దూరుచు ఘోర   విషమున చిలుక
తను జంప నూ’హించె   దైవ యోగమున
తన చావు దప్పి పా   తకము సిద్ధించె
ని’ది కీర మ’నగ రా   ది’ప్పుడే దీని
కదలంగ నీ’క నే   ఖండింతు న’నుచు
చలమున రత్న పం   జరము దెప్పించి
బలు తామసంబున   పండ్లె’ల్ల గీటి
యెరుకు పక్షుల వధి   యించు చందమున
కరకరి తన వామ   కరమున బట్టి
పాప పుణ్యంబుల   పరికింప లేక

వాపోవగా జంపె   వసుధీశ్వరుండు
వినుమంత తత్పురి   వేశ్యా వధూటి
జనములో మిన్నయై   సంగీత నాట్య
చాతుర్యముల వయ   స్సమయంబు నందు
ఖ్యాతిచే సకల భో   గముల నింపొంది
ముదిసి వేశ్యా మాత   ముగ్ధల తోడ
నదయత కలహింప   నందరు మీద
బడి వెక్కసము లాడి   ప్రహరించి యిల్లు
వెడలింప పొరిగింట   ఁలపింప దొణగె
నుడుపులనే నేను   నూట పదారు
గడియించు యౌవన   కాలంబు నందు
బోదుగా జనముల   పొగడిన సొళ్ల
కాదు కాదనిపించె   గా దైవ మాయ
పొంగుచు మరి మల్లె   పూలమ్మి నట్టి
యంగటనే కట్టె   లమ్మిన యట్లు
వగ మాలి బ్రతికి యా   వరి నుద్ధరింతు
తగదింక జీపింప   తనకని మతిని
భావింప విష చూత   ఫలము భక్షించి
వేవేగ ప్రాణంబు   విడిచెద నంచు
నరసి నెమ్మది నెంచి   యర్థ రాత్రమున
గరళ చూతము జేర   గా నేగి క్రింద
రాలిన ఫలముల   రాసుల లోన
మేలైన దొక పండు   మెసవిన యప్పుడె
వనిత పండ్రెండేండ్ల   వయసు బ్రాపింప
తన మది నుప్పొంగి   తపసోదయమున
నాడుచు బాడుచు   నచ్చోటు బాసి
వేడుకతో పుర   వీధి కేతేర
జను లెల్ల జూచి యా   శ్చర్యంబు నొంది

జనపతి కె'రుగింప సంశయం బ'నుచు
రావించి యావన ప్రాయంబు గనిన
యా వేశ్య నీ'క్షించి యద్భుతంబ'నుచు
పనుల వారల చేత పండ్లు దెప్పించి
జనులు చూడగ తన సచివుల కి'చ్చె
న'వి బుచ్చుకొని వార ల'ందర ర'చ్చోట
నవ మోహ నా'ంగులై నటియించి ర'పుడు
శత వృద్ధు ల'గువారు సతి పతుల్ మెసవి
యతి విస్మయత యావ నా'ంగులై యలరె
చిలుక జేసిన మేలు క్షితిపతి మదిని
దలపోసి తన జాడ్య తకు రోసి కన్న
కొడుకు మారుగ బెంచి కుడిచి కూర్చుండి
తడయక ధర్మంబు తప్పి కీరంబు
కసరి జంపితి న'ంచు కంధరం బ'ప్ప
డ'సిధార దెగ వైచి ప్రాణముల్ విడిచె
తన భర్త యీ రీతి తనువు వీడుటయు
గని రాజ సతి యను గమనంబు జేసె
చిలుక సామ్యంబుగా జేయకు మి'పుడు
వలదు నీ పుత్రుని వధ్యుని జేయ

ఇత్యాది - ఇత్యాది - ఇత్యాది.

Extracts from the Lila, Canto III. The Birth and youth of Maia.

శ్రీ సిద్ధవీర దేశిక చక్రవర్తి
భాసుర పద పద్మ భజనాభిరతులు
సత్య శౌచ దయాది సద్గుణాన్వితులు
నిత్య నిర్మల కృత్య నియమాభిరతులు
ముక్తి గోరెడు భవ మోహ వర్జితులు
భక్తులాలింపు డీ ప్రభులింగలీల
హాసు డెట్లనుగమింప నమరోరగములు
పరిణామ వార్తలు బచరింపు చుండ
తగిన శైలమునకు దక్షిణం బందు
తగు బెళువళి సీమ తనరారు నందు
సకల జనంబులు సత్య భాషణులు
సకలేశు భక్తులు సకల మానవులు
ధర్మ మార్గస్థులు ధరణీశు లెల్ల
నిర్మల చిత్తులు నిఖిలార్యు లెల్ల
ధర్మంబు నాల్గు పా దంబుల నడుచు
దుర్మార్గు లచ్చట ద్రొక్క రెన్నడును
యా దేశ మధ్యంబు నందు చందురుని
మేదుర కళ లెల్ల మిళితమై యుండు
సదనమో కాక వి శ్వంభరా రమణి
వదనమో యన బణవని యను పురము
చాల సొప్పారు నచ్చటి విశేషముల
నాళీకభవుడు వ ర్ణన సేయ లేడు
పూచిన మావులు పోక మాకులును

కాచిన నిమ్మలు   కదళికా తరులు
పండిన పనసలు   ఫల పూగములును
మండితా'శోకముల్   హూలూరములును
సర్జ ఖర్జూరముల్   చంపక వకుళ
భూర్జా'ది తరుల తో   పుల నే'పు మిగిలి
కలకంఠ శుక శారి   కా కదంబములు
కలకల ధ్వనులతో   గదిసి క్రీడించు
కన్నె గేదంగులు   కరవీరములును
పొన్నలు పొగడలు   బొండుమల్లెలును
గుండవర్ధనములు   కొండగోగులును
బండిగురివెందముల్   పారిజాతములు
వాసంతికలు విర   వాదులు జాజు
లా'సన్న జాజులు   న'ట్టి చామంతు
లే'కాలమున గల్గి   ఈశు భక్తులకు
నా'కాంక్ష బొడమించు   న'భవు బూజింప
పరువు దప్పక పూచి   పరిమళింపుచును
పురము చుట్టును నుండు   పుష్ప వాటికలు
కస్తూరి న'లికిన   ఘన వితర్దికలు
విస్తారములు గల   వివిధ వీధులును
మకర తోరణములు   మణి తోరణములు
నొ'కనాడు విడువక   ను'ండు న'ప్పురిని
కలయంపి చల్లిన   గంధంబు నీటి
చలువ నె'త్తావు ల'   చ్చట హెచ్చి యుండు
మలయజా'మోదంబు   మచ్చిక దాల్చి
యలరుల నెత్తావు   ల'ంగీకరించి
చల్లగా గొలకుల   జాడలు వట్టి
మెల్ల మెల్లన వచ్చి   మీనలోచనల
యుల్లంబు ఝల్లన   నొ'రసుక పైట

లెల్లన దొలగించి యలక లెల్లార్చి
మొల్ల తావులు ముట్టి యింపు పుట్టించి
పల్లవు లీలనొ పట్టణం బందు
సల్లలితోత్సాహ సంపద మెరసి
మల్లడి గొనుచుండు మలయ మారుతము
వేద శాస్త్రాగమ విద్యల యందు
బాదరాయణు క్రిందు బరచు విప్రులును
ప్రజల బాధింపక బరుల సాధించి
విజయంబు చేకొను విపులార్థి పతులు
లెక్కతో బ్రతుకుచే లెక్కని ధనదు
పెక్కువ మెచ్చని బేహారి కులును
విక్రమార్కుని మీద విడిచిన నైన
నాక్రమింపగ మాన రందున్న భటులు
సొగసిన మరు నైన సోక పూట లోన
సొరపుగా వలపింప నేర్తు రంగనలు
యిభ హయంబుల వేగ మెన్నిక చేవ
విభు గజాశ్వము లైన వెలవెల బారు
అనువాడ నేరని యర్థి లేడందు
విని యూరకుండెడి వితరణి లేడు
పతి భక్తి నడపని భామ లేదందు
సతుల రక్షింపని జాల్ములు లేరు
ఆ కోట పొడువును నగడిత లోతు
నాకులుం గూర్మ ప న్నగులును గాని
మెఱు లెఱుంగ రనంగ నురుతర సౌధ
సరణి యుచ్ఛేధంబు జర్చింప దరమె
కరి బృంహితంబులు ఘంటారవముల
వర వంది మాగధ వాగ్విలాసముల
ఘోషిత స్వనములు నెల్ల వాద్యముల

ఘోషణంబుల బ్రజా కోలాహలముల
రమణీయ మగు నా ప్పురం బేలు చుండు
మమకారు డనియెడు మండలేశ్వరుడు
యతని సౌభాగ్య మే మని జెప్ప వచ్చు
రతిరాజు రూపున రమ్య భోగమున
సురరాజు కలిమి భా సుర రాజరాజు
కురురాజు మాన న ద్గుణమున నీగి
ధర నంగరాజని దను బ్రస్తుతింప
గరిమెతో నారాజ కంఠీరవుండు
శాత హేతి నికృంత శత్రు రాజన్య
జాత నిర్భిన్న భా స్వన్మండలుండు
మను చుండి తన మేన మామ సత్పుత్రి
సనుప మాంబుజ నేత్రి యంచిత గాత్రి
మోహిని యను జగ న్మోహిని దగ వి
వాహమై యత్యంత వైభవంబులను
శచియు నింద్రుడొ రమా శార్ఙ్గులో శీత
రుచియు రోహిణియొ మరుండును రతియొ
యన దగి కవ గూడి యనగి పెంపొంగి
మనసులు సరిబోయి మకుతలం జిక్కి
కామ తంత్రంబులు గడుపుచు నుండు
రామమకారున కా మోహినికిని
సంతాన లాభంబు సమకూర కున్న
నింతియు విభుడును నెంతయు వగచి
యీ రాజ్య సుఖ మేల యీ రాజ్య మేల
గా రాపు సంతతి గలుగమి మనకు
స్థిర నపుత్రస్య గ తిర్నాస్తి యనుచు
వర వేద వాక్యముల్ వాక్రుచ్చు చుండు
నని శకునజ్ఞుల పొడగుదు రట్టి

నోసరంగ పోచిళ్ల బోతురు మరియు
గద్దె చూపింతురు గౌరి నోముదురు
పెద్దలు తమకు జె ప్పిన ప్రకారమున
గల నోము లన్నియు గలయ నోముదురు
పలు తెరంగుల సొమ్ము బార జల్లుదురు
క్షుద్ర శక్తుల నెల్ల గొలుతురు గాని
రుద్రు గొల్వంగ నే రుగ రజ్ఞు లగుచు
అటు గొన్ని దినముల కా దంపతులకు
కుటిల కుంతలి మాయ కూతురై పుట్టె
పుట్టిన దినమున భూరి వాద్యములు
నెట్టన మ్రోసెనే న్ని విధములను
భూరి పెట్టించిరి భూసురులకును
ధార వోయించిరి ధరణీ స్థలములు
అర్థి సంఘముల కి ష్టార్థ సిద్ధులును
అర్థి నిచ్చిరి జను లచ్చెరు వొంద
నూరును యిల్లును నెల్లక విడిచి
ఘోర కాననముల కును జని యచట
గంగా తటంబుల ఘన గిరి గుహల
శృంగార వనముల సిద్ధ స్థలముల
పంచాగ్ని మధ్యమ భాగంబు లందు
మంచు లోపల జల మధ్యంబు నందు
ఫలముల జలముల బండుటాకులను
మలయు నాకటి చిచ్చు మానుపు కొనుచు
పాయక నిష్ఠత పంబు లేప్రొద్దు
జేయు తపస్వుల చిత్తముల్ జెదరి
తలలు వణకెడు ముది తాపసోత్తముల
తలపు నెంతయును త త్తర కెత్తరయ్యె
మృగ పక్షి పశువులు మేతలు వదిలి

పగలు రేయును వెంటఁ బడి బాయ వ'య్యె
పుట్టలు తల మీఁద బుట్టి న'ప్పుడును
నెట్టన నిష్ఠలు నిలిపెడు ఋషుల
గుట్టు ల'న్నియును గూం కుపు వత్తు ల'య్యె
ని'ట్టి దుర్దశ రాకఁ కేఁమి కారణము
యనుచు చింతా'క్రాంతు లగుచు న'ందరును
మనసుల దలపోసి మరుగుచు నుండ
దుర్వార దుర్భావ దుఃఖా'గ్ని వజ్ర
దూర్వాసు డా'మహా త్ముడు శైవ మౌని
వచ్చె న'చ్చటికి దైవ వశంబు కతన
వచ్చిన గని ముని వ్రాత మాతనికి
న'ర్చన లి'చ్చి మ హా'ర్హ పీఠమున
గూర్చుండ జేసిము క్కుచు జేరి మ్రొక్కి
కరములు శిరమున గదియించి దేవ
హర కృపా'యత్త కా లా'ర్ధా'నుభావ
యేమి గారణమున నీ'చిత్త చలన
మీ'మార్గ మాక'య్యె నె'రుగింపు డ'నిన
ధాత్రి పై మమకార ధరణీ'శ్వరునకు
పుత్రియై మాయ య ద్భుతముగా బుట్టె
నె'క్కడి యోగంబు నె'క్కడి తపము
లె'క్కడి భక్తి మ రె'క్కడి ముక్తి
యన విని దూర్వాసు న'డిగిరి మరియు
మనములు చలియింప మౌను ల'ందరును
మాయ యెట్టిది యది మహి నే'ల పుట్టె
నీ'యర్ధమును మాకు నె'రుగింపు డ'నిన
దంత కాంతులు దిశా దంతి దంతముల
కాంతులు కడకొ'త్త గా బల్కి మరియు
హరుని కొల్వున గౌరి యందరు వినగ

ధర నిజ సుఖమున దనరె నె'వ్వండు
నా కా'నతి'ండ'న్న నగజతో శంభు
డా'కొల్వులో వార ల'ందరు వినగ
ప'ల్లవ ప్రభువు పో యని యా నతి'య్యె
మెల్లన నవ్వి య మ్మా లత నా మాయ
క'క్కజం బ'ందుచు న'ల్లమ ప్రభువు
చిక్క కు'న్నపుడు గా చెల్లు నీ మాట
యని తన తామసం బ'ంతయు గూర్చి
వనితగా జేసి భూ వలయ స్థలమున
క'నిచె న'ల్లమ గెల్వ న'ది చమత్కార
జనపాల పుత్రి'మై జనియించె దాని
కల గుణంబులు జెప్ప కథలు'మై యుండు
దెట్టెద నొ'క కొన్ని తెరగొ'ప్ప వినుడు
గరుడ కిన్నర యక్ష గంధర్వ వరుల
నర సురా'సుర సాధ్య నాగ ముఖ్యులను
కోమలులకు బారి గొరియల జేసి
దామెన కట్లకు దార్చు నా'మాయ
పొంగి చతుర్దశ భువన పంక్తులను
మ్రింగుచు ను'మియుచు మెరయు నా'మాయ
పరమేష్ఠి దొర యని బరికింప మాయ
వర వాణికిని జిహ్వ వాసంబు జేసె
హరి యధికుండ'ని యరయంగ మాయ
యురమున నిందిర నుండంగ జేసె
రుద్రుండు ఘను డ'ని రూపింప మాయ
రుద్రాణి నర మేన రూఢిగా నిలిపె
వీరి కన్నను ఘనుల్ వెదకిన గలరె
యేరికి గెల్వ రా దీ'మహా మాయ
జూచి మరపు మాయ సుద్దు ల'న్నియును

బూచి విధంబున   బోలియు దన్నె'రుగ

దల్లియై తనయయై   తరుణియై మాయ

యెల్ల వారల భ్రమ   యింపుచు ను'ండు

పరికింప నా'మాయ   బాయు డెందముల

బోరి న'ల్లమప్రభు   బూని చింతించు

డ'ని చెప్పి దూర్వాసు   డ'రిగె నిజే'చ్ఛ

మును ల'ట్ల సేయుచు   ముదమున ను'ండి

రి'ట మనుకారుడు   ని'ంతి మోహినియు

పటుతర ప్రేమనా'   బాలికె మాయ

గను విచ్చి మాతురు   గను మాయ లేక

మనసున దలతురు   మరువరా' రూపు

న'క్కున జేర్పుదు   ర'డలంగనీ'రు

పక్కలో ని'డుదురు   బాసి పోలేరు

మాయ గా'కి'ది యేడ   మన బిడ్డ యనుచు

మాయ పేరి'డియె   న'మ్మమకార నృపతి

దాదులు జన్ని'చ్చి   దల యంటి జలక

మా'దరంబున నా'ర్చి   యట తడి యొత్తి

తొడల పై ని'డి   వెన్న తో ను'గ్గుబెట్టి

కడు నొప్పు గన్నుల   కాటుక బెట్టి

భూతి బొ'ట్టి'డి చల్వ   పొత్తులు బరచి

ప్రీతి బండగ జేసి   బెద్ద యెల్గునను

జోకొట్టి జోకొట్టి   జోల బాడుదురు

ప్రాకటంబుగ నిద్ర   బట్టిన'ందాక

యంచిత రత్నమ   యంబై'న తొ'ట్ల

మంచంబులో దోచు   మానిత ఛాయ

తన తోటి బాలగా   దలచి బట్టంగ

జను లీల చేతులు   జాపుచు నా'డు

తల్లి చంకిట ను'ండి   తండ్రి జంకకును

మెల్లనె జని తండ్రి మెడ గౌంగలించి
గద్దరి తనమున కడు వేడ్క తోడ
ముద్దులు బెట్టుచు మురియుచు నాడు
అందెలు మువ్వలు నంఘ్రుల మొరయ
నందంద గదలి దట్టడుగులు బెట్టు
నంగతంబులు బయి డొత్తులు నదుట
రంగైన బంగారు రావిరేకయును
యందంబుగా గన్నె రాకు దండలును
కుందనంబున నైన గుండ్ల పేరులును
మేన నొప్పారంగ మిక్కిలి వేడ్క
తో నాడుబడుచుల తో గూడి యాడు
తన తల్లి తండ్రులు దాదులు చెలులు
మనసు రంజిల్ల యా మాయ బాల్యంబు
గడుపుచు నుండె నక్కజ మొంది జనులు
వేడుక వెయి నోళ్ల వినుతింపు చుండ
నామీద మాయ శి ష్యాచార్య నట్లి
సామజంబులకు హం సలకును నడలు
కలకంఠ తతులకు కలకల ధ్వనులు
చిలకలకును ముద్దు జిలుక పల్కులును
దానేర్పు చుండునం తట యౌవనంబు
గానంగ నయ్యె నా కందువ మాయ
మనసు లో భావంబు మాటలో తేట
తను సన్న మధ్యంబు కర సౌంజ్ఞ కీలు
కొమముడి కోపంబు బుద్ధి బింకంబు
భ్రమకు గారణ మైన భావంబు జూచి
మూర్ఖు లైనను జూచి మోహింపు చుండ
ప్రౌఢ తనంబున బరగుచు నుండె
నానటనంబులు నావిలాసములు

నా’నడలా’పిక్క లా’నును దొడలు
నా’నితంబము గౌను నా’గబ్బిగుబ్బ
లా’నాసికము సోగ లై’న’ట్టి కన్ను
లా’నయం బ’గు చేతు లా’నగు మోము
నా’నెరి వేణియు నా’మాయ మగుట
కే తాని యెవ్వరి కిని లేవు పిదప
లోక త్రయంబును లోగొన్న యట్టి
యా మాయ కు’ండంగ నా’నృపాలుండు
హేమ రత్నములతో నే’పు దీపింప
గోడలు బెట్టించి కొలువు కూటములు
మేడలు వాడలు మేలు బూజిగెలు
కట్టించి యందు న కల నియోగముల
బెట్టించి విద్యల పెద్ద లై’న’ట్టి
ఘనులచే జెప్పించె కా’వ్య నాటకము
ల’నుపమంబుగ బాల న’ట్లు రప్పించె
న’ట మీద మమకారు డా’త్మ సంభవకు
పటు వైభవంబున పరిణయంబునకు
కరహాట మరహాట కర్నాట లాట
కురు భోజ బర్బర ఘూర్జర ద్రవిళ
నేపాళ మాళవ నిషధ సౌవీర
భూపాల సుతుల నా పుత్రి మాయకును
గరి గరికల విద్య కౌశలంబునను
దొరసిన దొర యాడ దొరకు నో యనుచు

Extract from Canto VIII. describing the death of Maia.

యా రీతి న’ల్లము డ’ంతర్ధి నొ’ంద
భూరి శోకంబున బొగలుచు మాయ
శివుల నా’లోకించి విన్న నై యుకను

హిమశైల సుత కడ   కేనెట్లు వత్తు
నామేనకాత్మజ   హరు గొల్వనకును
నేమాడ్కి బోవు నే   నిట్లయ్యకొంటి
యింత కార్యమునకు   యిందరి లోన
పంతమాడితి గదా   శాపురే విధియు
అని యాత్మ లోపల   నడలుచుండంగ
మనుజ నాయకుడు కు   మార్తె జూడంగ
వనమున కేతెంచి   వనమెల్ల దిరిగి
కనియె నొక్కెడ చెలి   కత్తెల గూడి
అఖిల చింతాక్రాంత   యై యున్న సుతను
సతియును బతియును   నయ్యన జేతు
లెత్తి కౌంగిట జేర్చి   యింతి నీకింత
చిత్త విభ్రమణంబు   జేసెగా శివుడు
మన్నెరాయ కుమార   మండలేశ్వరుడు
నిన్నడిగించంగ   నీవు నేడొక్క
మద్దెలకాని వెం   బడి బారి వచ్చి
యిద్దరవస్థకు   నెట్లు లోనైతి
వద్దమ రేయి నీ   యమ్మ నీకెన్ని
బుద్దులు జెప్పిన   ప్పుడు విన వైతి
మన్నె రాజుల కెల్ల   మగడ నయ్యుండు
నన్నైన దలచక   నా ముద్దు కూన
దిప్పకాయవు వలె   తిరిగి యిల్ వరస
తప్పంగ నడుతురా   తల్లియు దండ్రి
జెప్పిన మాటలు   సేయకుండుదురె
తప్పె కార్యము గతో   దక బంధమునకు
పని యేమి యున్నది   పల్లకి యెక్కి
చను దెమ్ము లెమ్మన్న   జననాధు జూచి
విమల వాక్ప్రౌఢిని   విస్పష్టముగను

హిమశైల తనయ నే   నీ క్షణంబున నే
భ్రమయించి వలపించి   పట్టుక వత్తు
న'ని శివు ముందర   న'గజతో నా'డి
చను దెంచె యా ప్రతి   జ్ఞయు చెల్లదా'యె
కైలాసమున నే'ము   గదలి పోయెదము
చాలింపు డీ'క మీ వి   షాదముల్ మీరు
ప్రోలికి జని సుఖం   బున నుం'డు మ'నుచు
విమలయు మాయయు   వినువీధి జనిరి
బ్రమదయు బలియును   బహుళ దుఃఖముల
న'డలుచు బడలుచు   హా పుత్రి యనుచు
పుడమి ధరాళి నొ'డళ్ళ   బ్రుంగుడు గాంగ
బొరలుచు నొ'రలుచు   బోయితే యనుచు
కరుగుచు మరుగుచు   కటకటా యనుచు
కందుచు గుందుచు   కళవళింపుచును
వందుచు వైనరుచు   పడి గొట్టుకొనుచు
నా'యంద మా'చంద   మా'విలాసములు
నా యక్క మే మొ'న్ని   నాళ్లకు మరుతు
మ'నుచు ప్రలాపించు   న'వసరంబునను
ఘనుడ'హంకారుడ'   క్కడికే'గుదెంచి
కడ చన్న పనికి దుః   ఖ పడంగ నే'ల
మృడు నా'జ్ఞ జనులకు   మీరంగ దరమె
మాయ కారణమున   మన యింట నిలచి
పోయె నిం'తే కాక   పుత్రియే మీకు
విమల చెప్పిన మాట   వినియును నిట్లు
క్రమము దప్పంగ దుః   ఖ పడంగ దగునె
మన రాజధానికి   మగుడి పోకు'న్న
న'నుమానములు పుట్టు   నరుల డెందముల
మన వార లం'దరు   మన తావు విడిచి

చన జూతు ర'న్య రా జన్యుల కడకు
యని నొడబడ జెప్పి యా మమకార
జనపతి దెచ్చి యా స్థానంబు న'ందు
నిలుప నా'మమకార నృప కుంజరుండు
సలలిత లీల రా జ్యము సేయు చు'ండె
అక్కడ నా'మాయ యా విమలయును
మ్రొక్కి శంకరు రాణి ముందర నిలచి
తల వ్రేల వేసుక ధరణి వ్రాయుచును
నిలుచు'ండ గని భవా నియును న'మ్మాయ
క'ల్లమ చిక్కక యరుగుట యెరిగి
పుల్లాసము'డిగి ని ట్టూర్పు నించుచును
హరుని వద్దికి బోక యద్రిజ యుండె
హరుడు నా'వృత్తాంత మ'ంతయు నె'రిగి
గిరిరాజ సుత యింటి కిని తానె పోయి
కరుణా రసంబు దొలు కంగ నూ'రార్చి
యంతట జాలింప కొ'ంత కా'ంతకుడు
కాంతకి'ట్లనియె వ్యం గ్యము గాన బడగ
పిడుగు తండములను . పిట్టల జేసి
పుడక బెట్టగ వచ్చు ను'గ్రో'రగముల
దొడుగంగ వచ్చు మృ త్యువు వాడి కోర
లూ'డిసి పీకగ వచ్చు ను'ర్వి న'ల్లమును
గరిగింప రా దె'ట్టి ఘనులకు నై'న
తరుణి యంతే దాని ధైర్య మ'దె'ంత
అయిన కార్యంబ'య్యె యద్రిజ నీదు
మానసంబున చింత మరువుమీ యనిన
మాయ నా మారుగా మహికి బంపినను
యా యల్లమునకు బ్రతి యై నీవు బోయి
ఆడిన పంతంబు హావణించు కొ'ంటి

ఘూడితి నిక్కమైన   నూరక యుండు
మన విని పార్వతి   యధిక గర్వమున
తనిపోని నీ లోని   తామసం బెల్ల
వనితగా జేసి య   వ్వసుధకు బంపి
నిను నీవె జేసుకొం   టివి నగుబాటు
ఘన సహజానంద   కలితుని నతని
మనుజ మాత్రునిగాను   మది దలపోసి
మాయయు గీయయు   మాటాడ గలదె
కాయ గుణంబులు   గలవె యాతనికి
యని సారె సారెకు   హరు డిట్లు పలుక
విని విని వేసారి   విభున కిట్లనియె
అక్కటా పలుమారు   నామాట లేల
ముక్కు గోయుట గాక   ముకరమీ నేల
నేరమి యెంచంగ   నే నెంత దాన
కారుణ్య నిధి నీవు   గావున నన్ను
మన్నింపు మనిన న   మ్మానిని జూచి
పన్నగా నిట్లని   పలికె నీశ్వరుడు
యే విధంబున నైన   యీసారి కోర్వ
నీ వగపెల్లను   నేనె దీర్చెదను
నా విని దండ ప్ర   ణామంబు జేసి
కేవల భక్తితో   గిరిజ కేల్మోగిచి
యే వగ మాన్చెద   వీవగ వనిన
దేవికిట్లనియె నా   దేవ దేవుండు
నీ లోని సాత్విక   నిర్మల కళను
భూలోకమున కను   పుము కర్మ రహిత
భక్తి వైరాగ్య సం   పన్నగా జేసి
భక్తి మెచ్చుట నుండు   ప్రభువుండు నచట
గాన నీ సాత్విక   కళ యున్న కడకు

తానె డాయగ వచ్చి   తనదు నిజ స్వ
రూపంబు జూపి కా   రుణ్యంబు తోడ
నా'పైదలికి మహా'   హ్లాద మొ'సంగు
న'నిన నా'దేవి మ   హా ప్రసాద మ'ని
తనదు సాత్విక కళ   ధరణికి న'నిచి
అనుపమా'నందంబు   న'ందె నా'వేళ

ఇత్యాది - ఇత్యాది - ఇత్యాది.

These pages, 45 to 78 are to be placed at the end of No. 26 of the Madras Journal.

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